



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

### Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

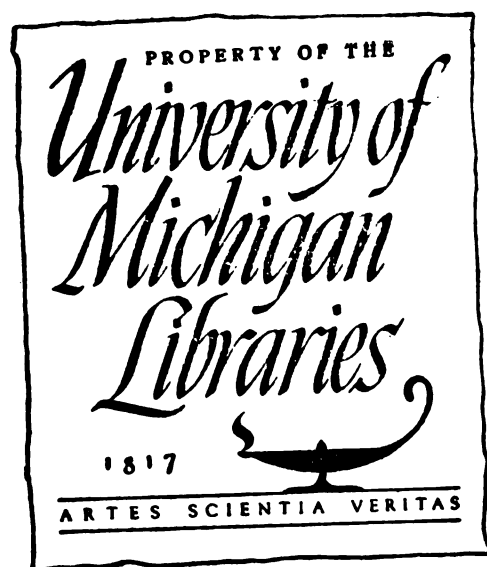
- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

### About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

C 423,672

TJ  
605  
D39  
1859







Transportation  
Library

TJ  
605  
-D39  
1859



*Paul Henry Tilton . 1875  
from his mother.*

ATLAS  
OF THE  
ENGRAVINGS  
TO  
ILLUSTRATE AND PICTORIALY EXPLAIN  
THE  
LOCOMOTIVE ENGINE  
IN ALL ITS PHASES.

BY  
G. DRYSDALE DEMPSEY,  
C. E.

FOURTEEN PLATES.

LONDON:  
JOHN WEALE, 59, HIGH HOLBORN.  
1859.





TRANSP

TJ

605

D39

1859

## LIST OF PLATES.

---

- PLATE 1.—History of the Locomotive Engine. Fig. 1, Six-wheel Engine, inside cylinders; fig. 2, Six-wheel Engine, outside inclined cylinders; fig. 3, Six-wheel Engine, four wheels coupled.
- PLATE 2.—Fig. 1, Bogie Engine; fig. 2, Four-wheel Engine for passenger traffic; fig. 3, Six-wheel Engine; fig. 4, Four-wheel Engine, for goods traffic.
- PLATE 3.—Engine and Tender, constructed by R. and W. Hawthorn, Newcastle.
- PLATE 4.—Elevation of Locomotive Engine on the Great Western Railway.
- PLATE 5.—Longitudinal Section of ditto.
- PLATE 6.—Transverse Sections of ditto. Fig. 1, through Smoke-box; fig. 2, through Fire-box.
- PLATE 7.—Details of Locomotive Engine.
- PLATE 8.—The Link motion. Part Section of Locomotive Engine, showing Link, Eccentrics, Slide-valves, &c., in connection with Boiler, Fire-box, &c. Half plan of Locomotive Engine, showing Link, &c.; Diagram of Link, Eccentrics, &c., detached.
- PLATE 9.—Elevation of a portion of the Pyracmon Working Gear.
- PLATE 10.—Half plan of Working Gear of ditto.
- PLATE 11.—Outside Cylinder Tank Engine.
- PLATE 12.—Crampton's Locomotive Engine, Longitudinal Section.
- PLATE 13.—Samuel's Express Engine.
- PLATE 14.—The Locomotive Engine on the Versailles Railway (with which the experiments were made);\* Elevation and Half Sectional Plan.

---

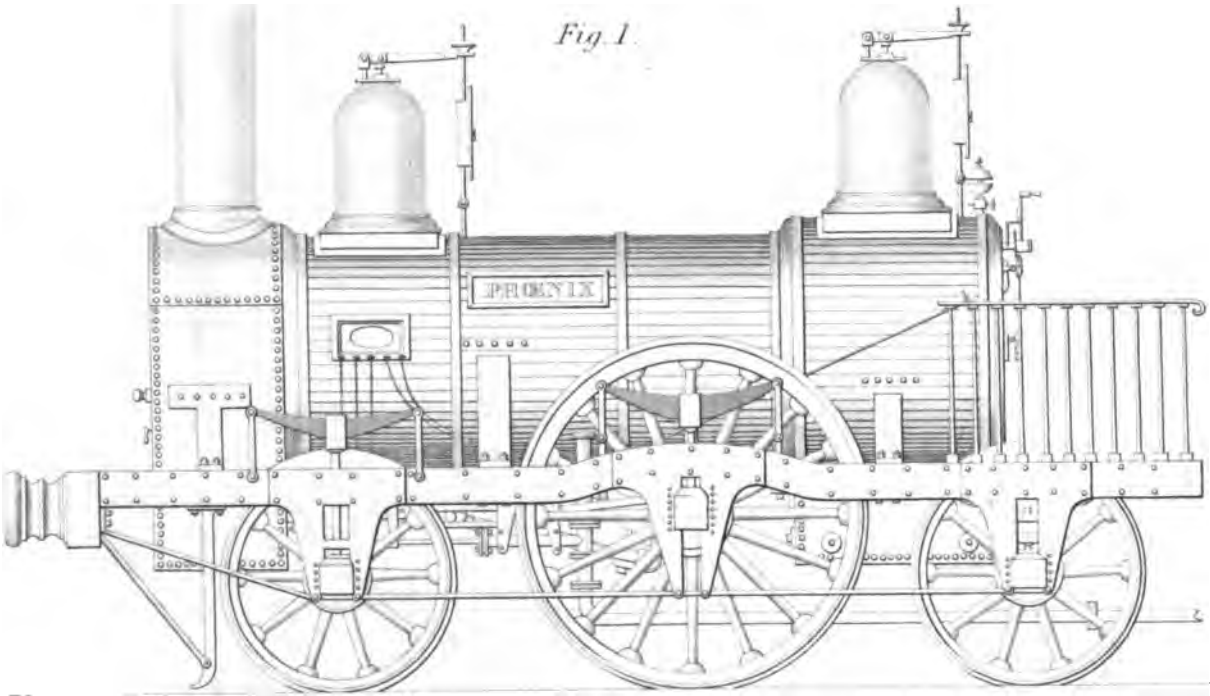
\* See Catalogue published by Mr. Weale, entitled *EXPERIMENTAL RESEARCHES UPON THE LOCOMOTIVE ENGINE*, recently made by MM. Gouin and Chatelier, on the Versailles and Paris Railway. Translated by R. Lloyd, C.E. In 4to, with Engravings, price 7s. 6d.





SIX WHEEL ENGINE.

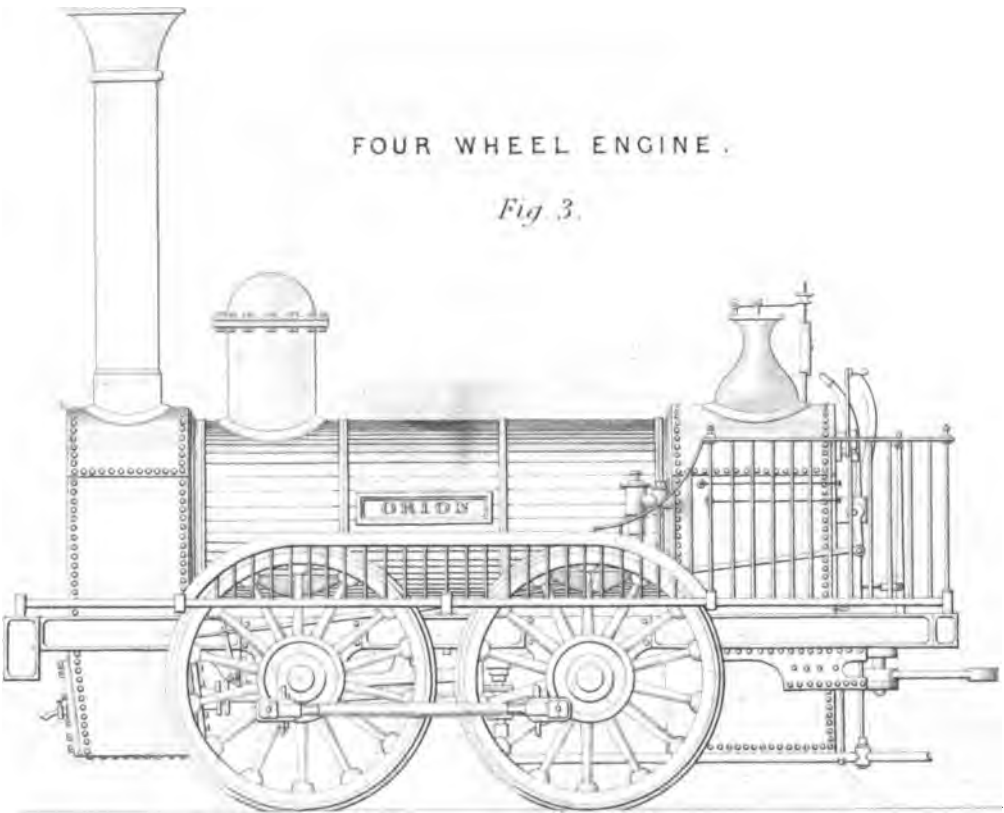
INSIDE CYLINDERS.



Inches 12 0 1 2 3

FOUR WHEEL ENGINE.

*Fig. 3.*

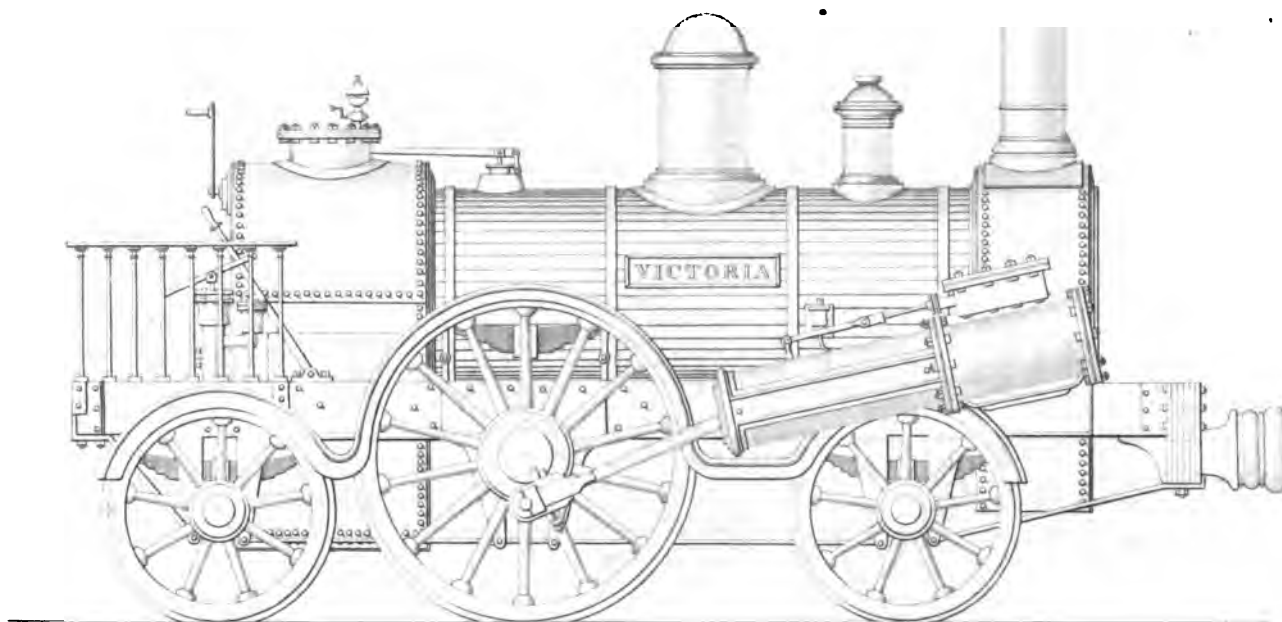


LOCOMOTIVE ENGINE.

SIX WHEEL ENGINE.

OUTSIDE INCLINED CYLINDERS.

Fig. 2.

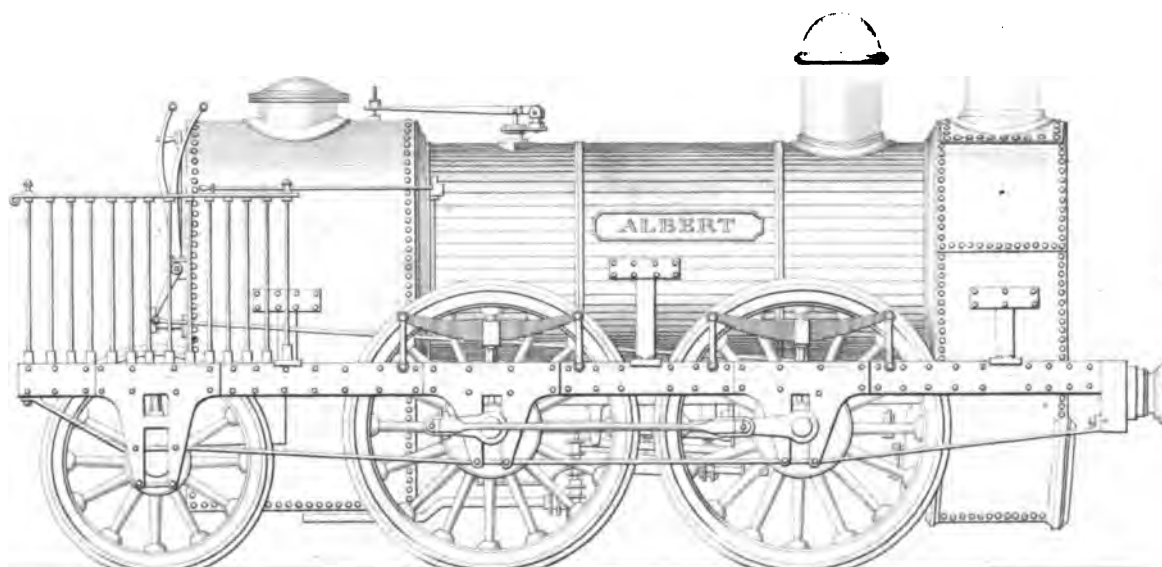


4 5 6 7 8 Feet.

SIX WHEEL ENGINE.

(FOUR WHEELS COUPLED.)

Fig. 4.



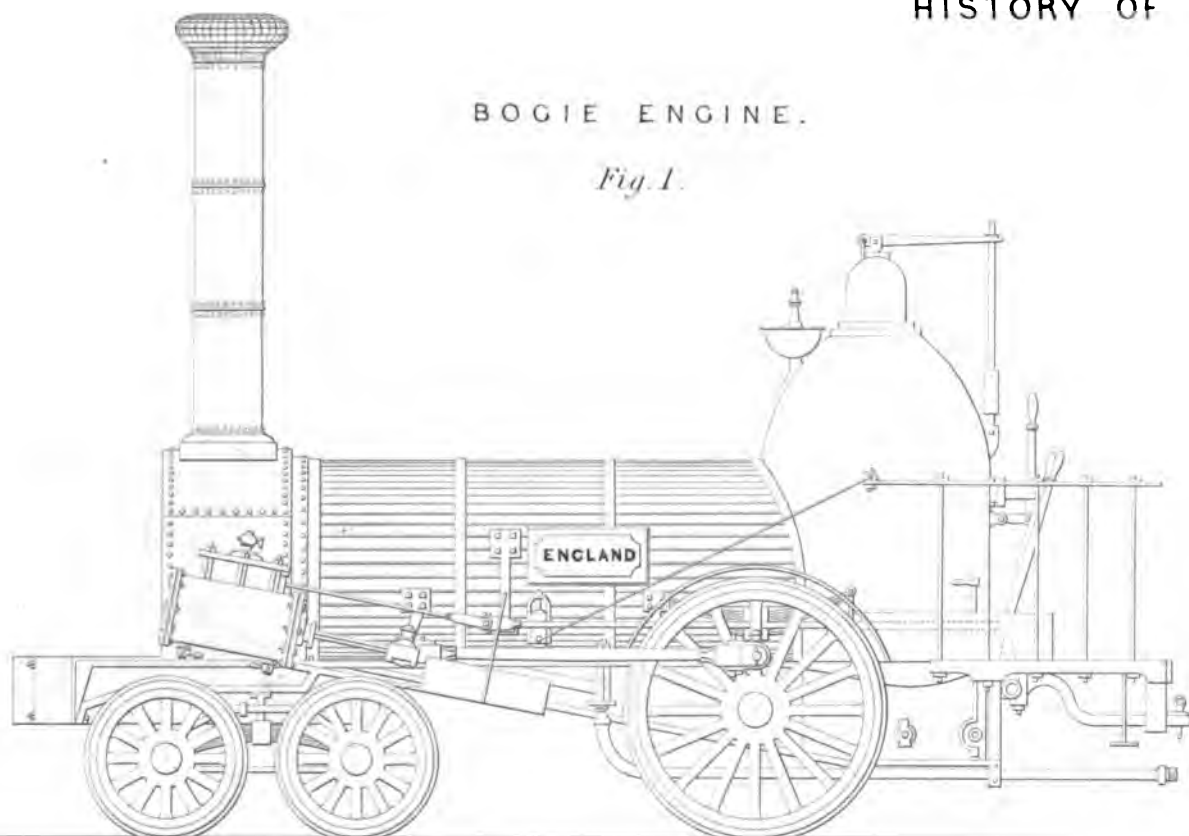






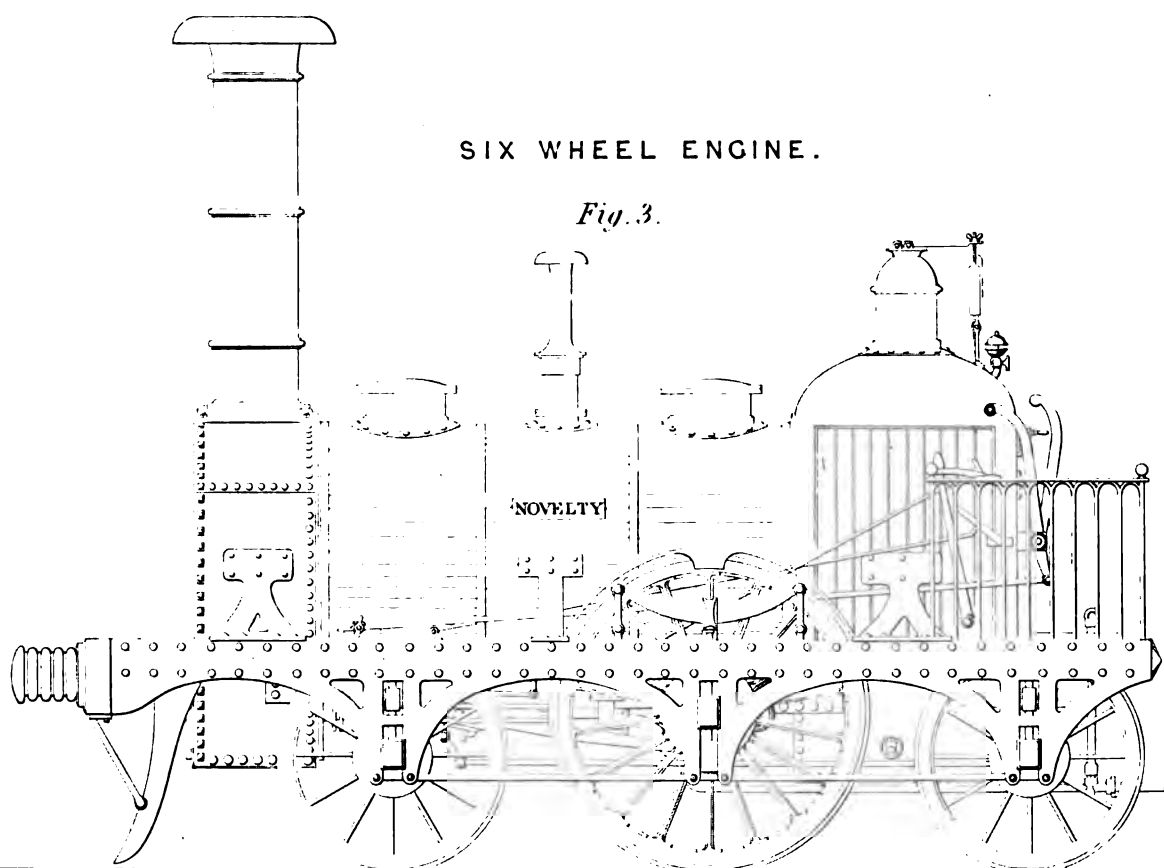
BOGIE ENGINE.

*Fig. 1.*



SIX WHEEL ENGINE.

*Fig. 3.*



*F. Rumble del.*

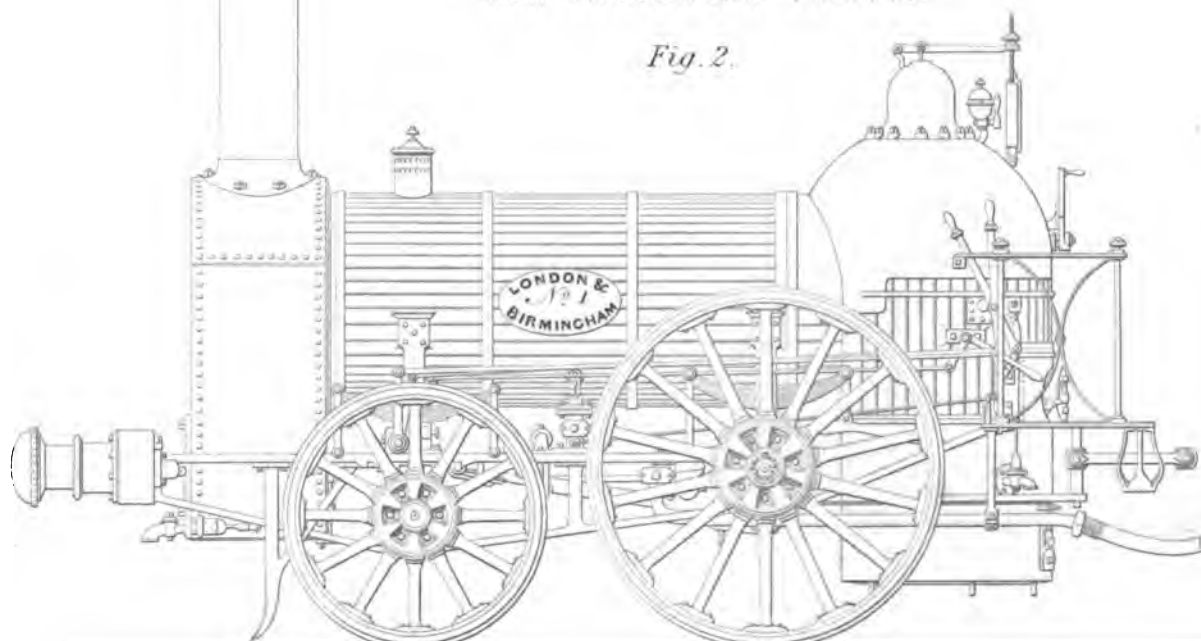
*1840*

*Scale*

COMOTIVE ENGINE.

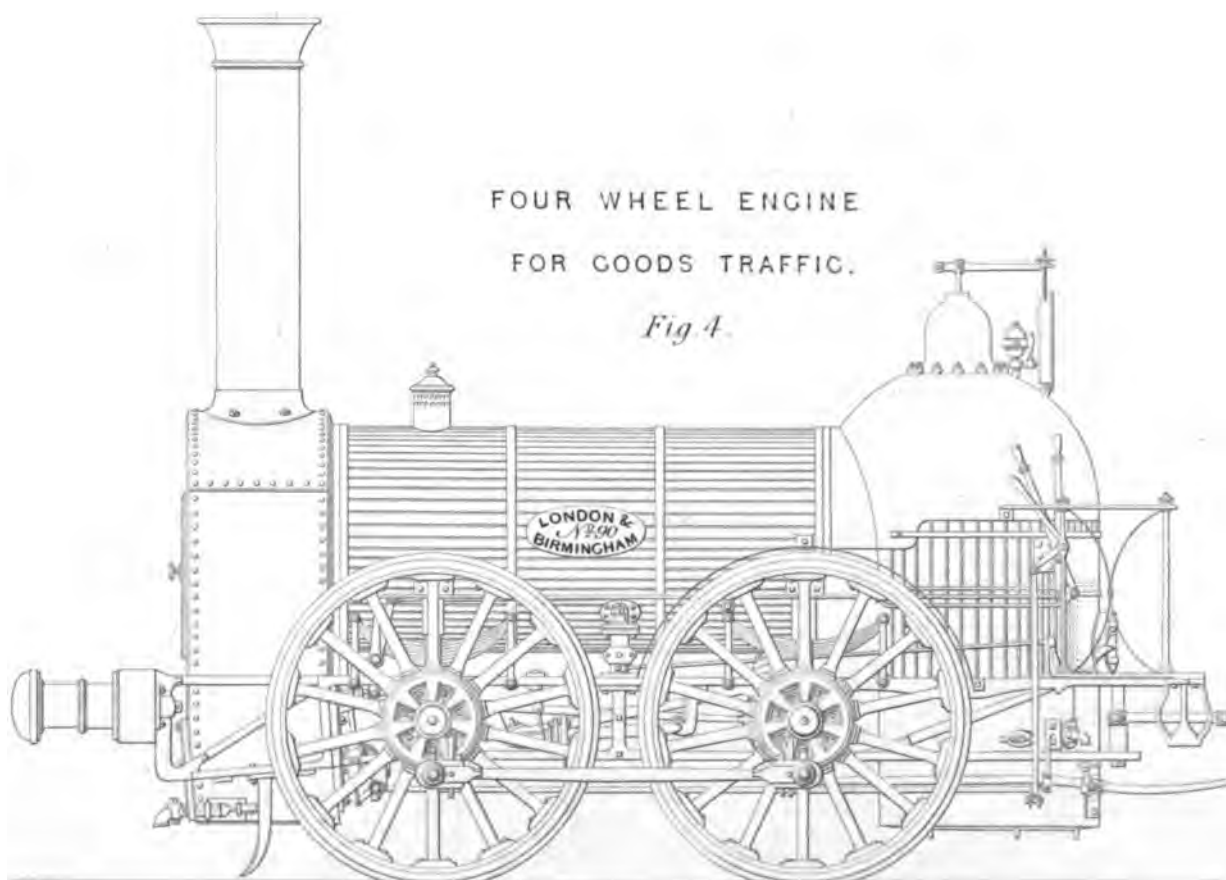
FOUR WHEEL ENGINE  
FOR PASSENGER TRAFFIC.

*Fig. 2.*



FOUR WHEEL ENGINE  
FOR GOODS TRAFFIC.

*Fig. 4.*

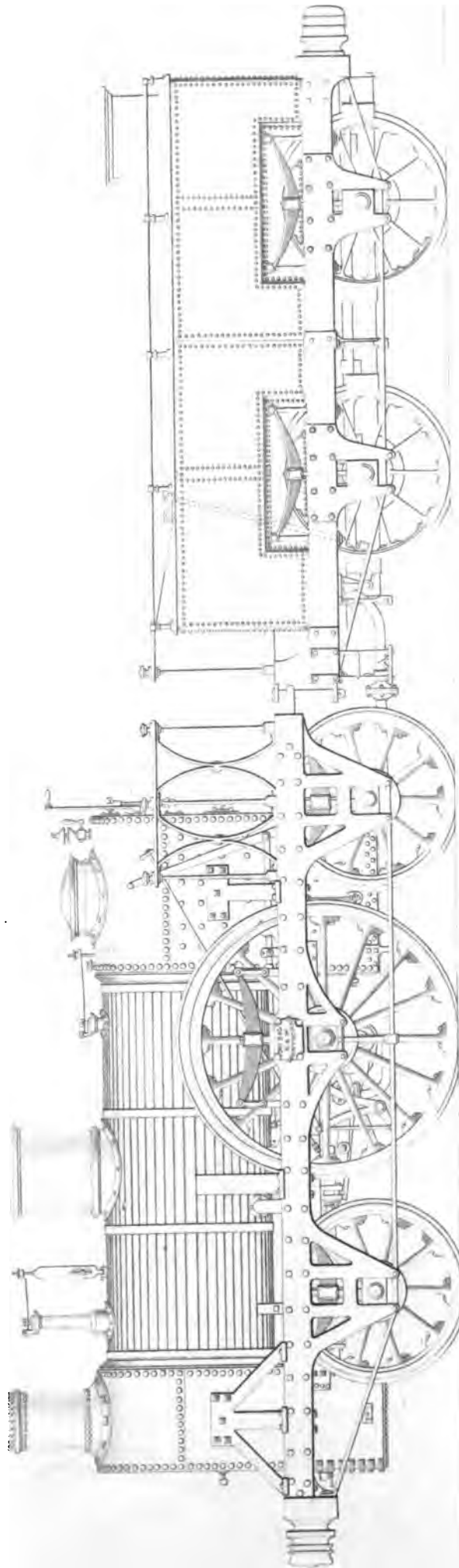




# HISTORY OF THE LOCOMOTIVE ENGINE.

ENGINE & TENDER CONSTRUCTED BY R & W. HAWTHORN.—NEWCASTLE.

Plate. III.



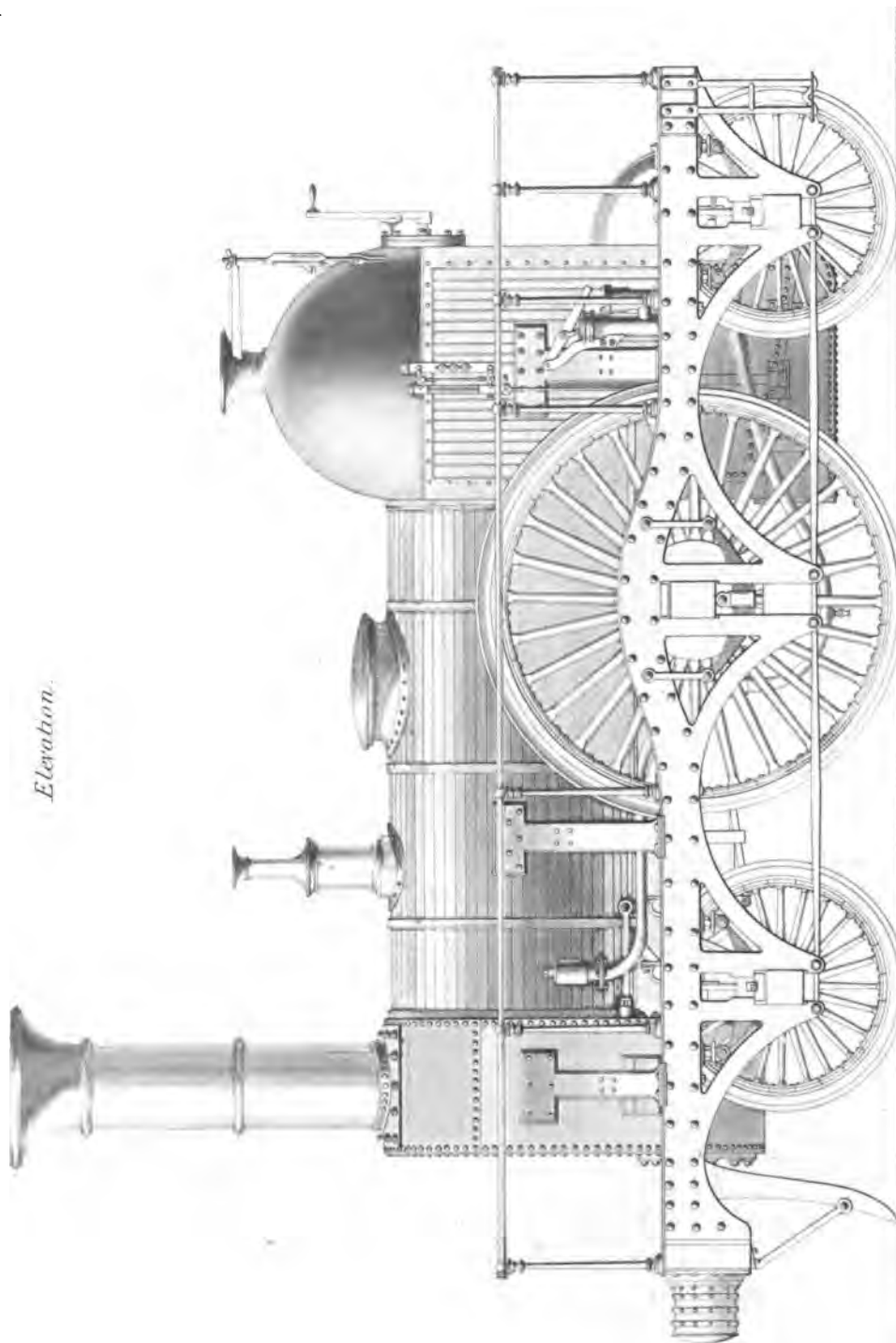
Printed by

London, John Weale, 1855.

F. Mearns, B. C.



LOCOMOTIVE ENGINE ON THE GREAT WESTERN RAILWAY.



Elevation.

Inches 0 1 2 3 4 5 6 7 8 9 10 Feet.

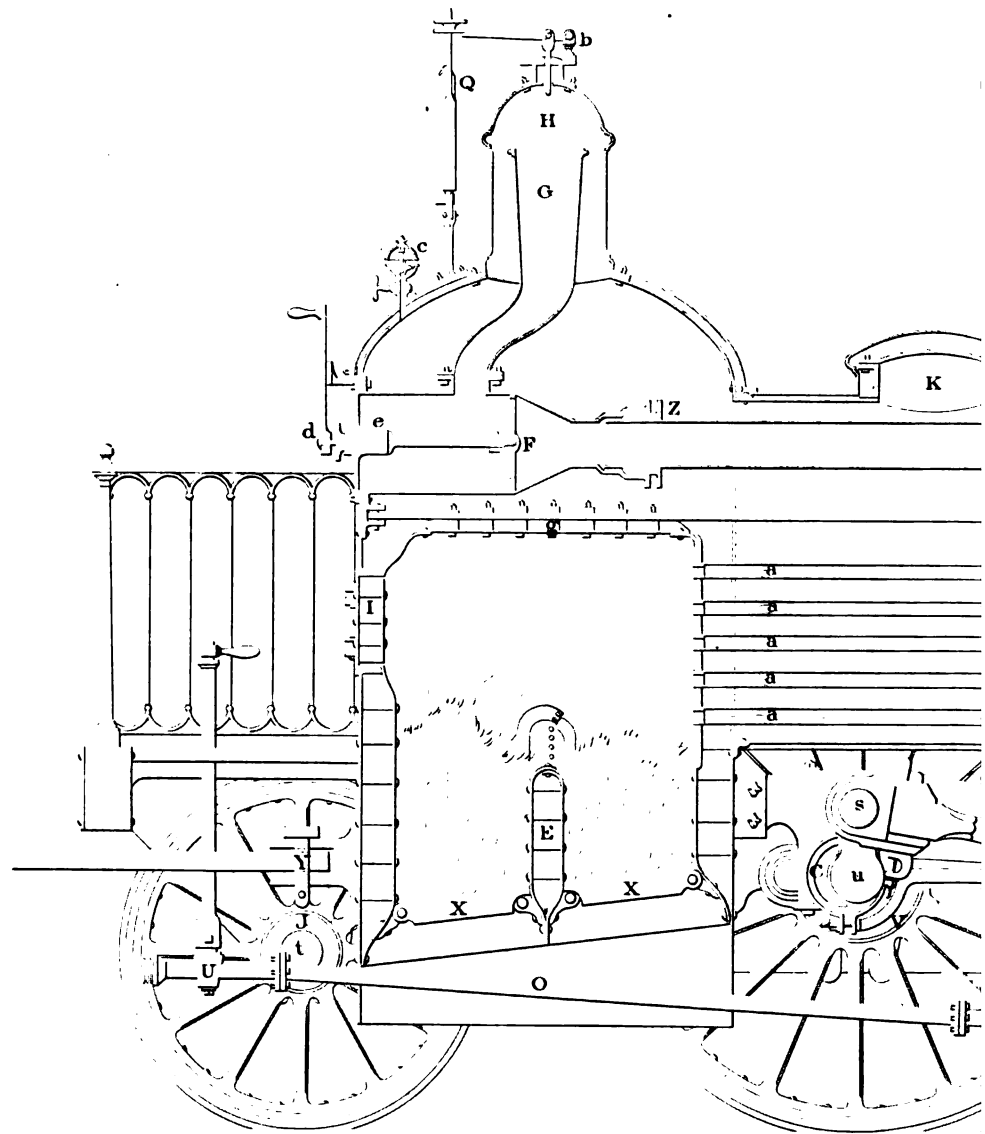






# LOCOMOTIVE ENGINES OF RAIL

*Longitudinal*



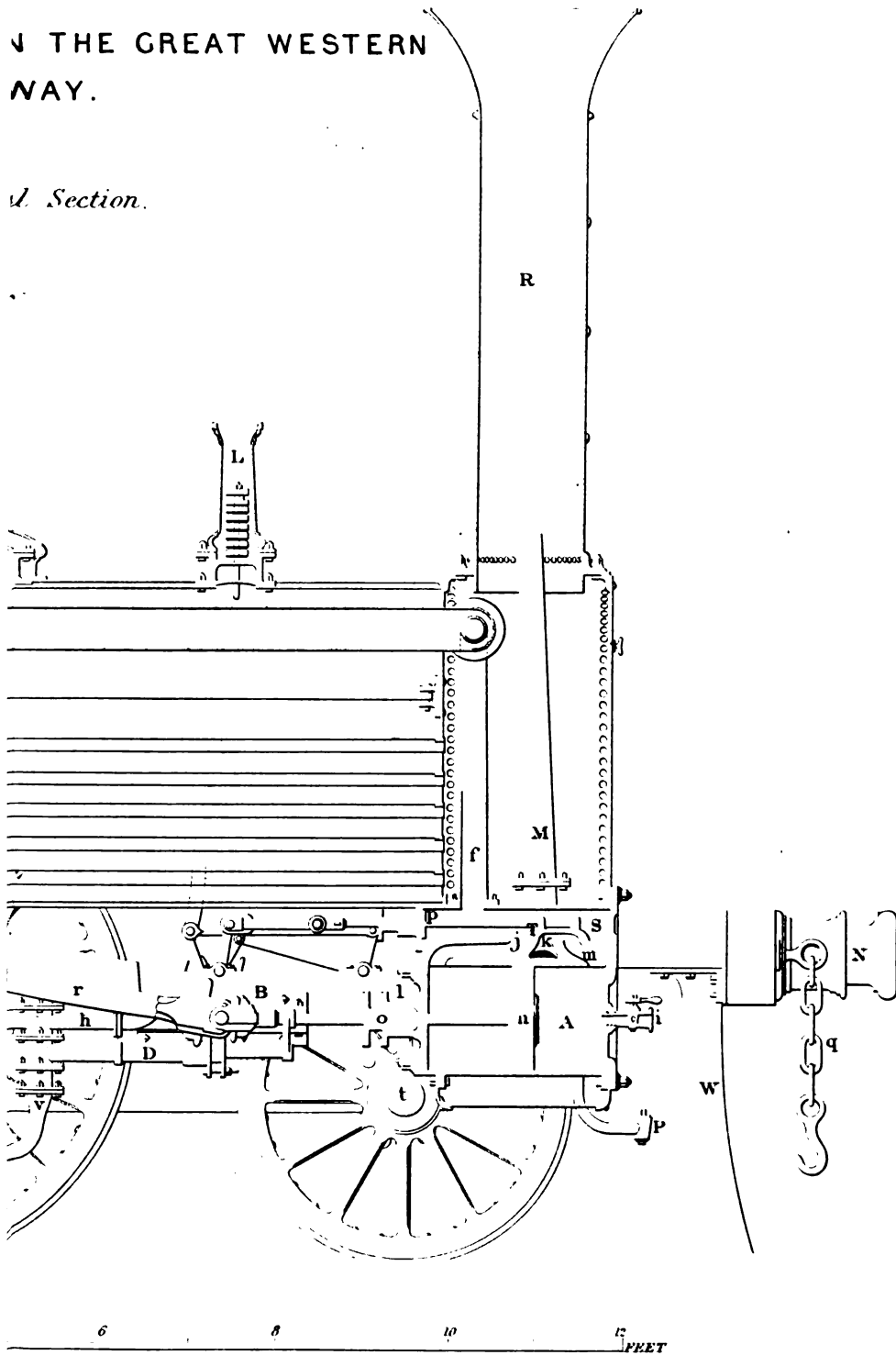
Inches 2 2 6 3 2

*F. Rumble del.*

*London, John*

# THE GREAT WESTERN WAY.

Section.

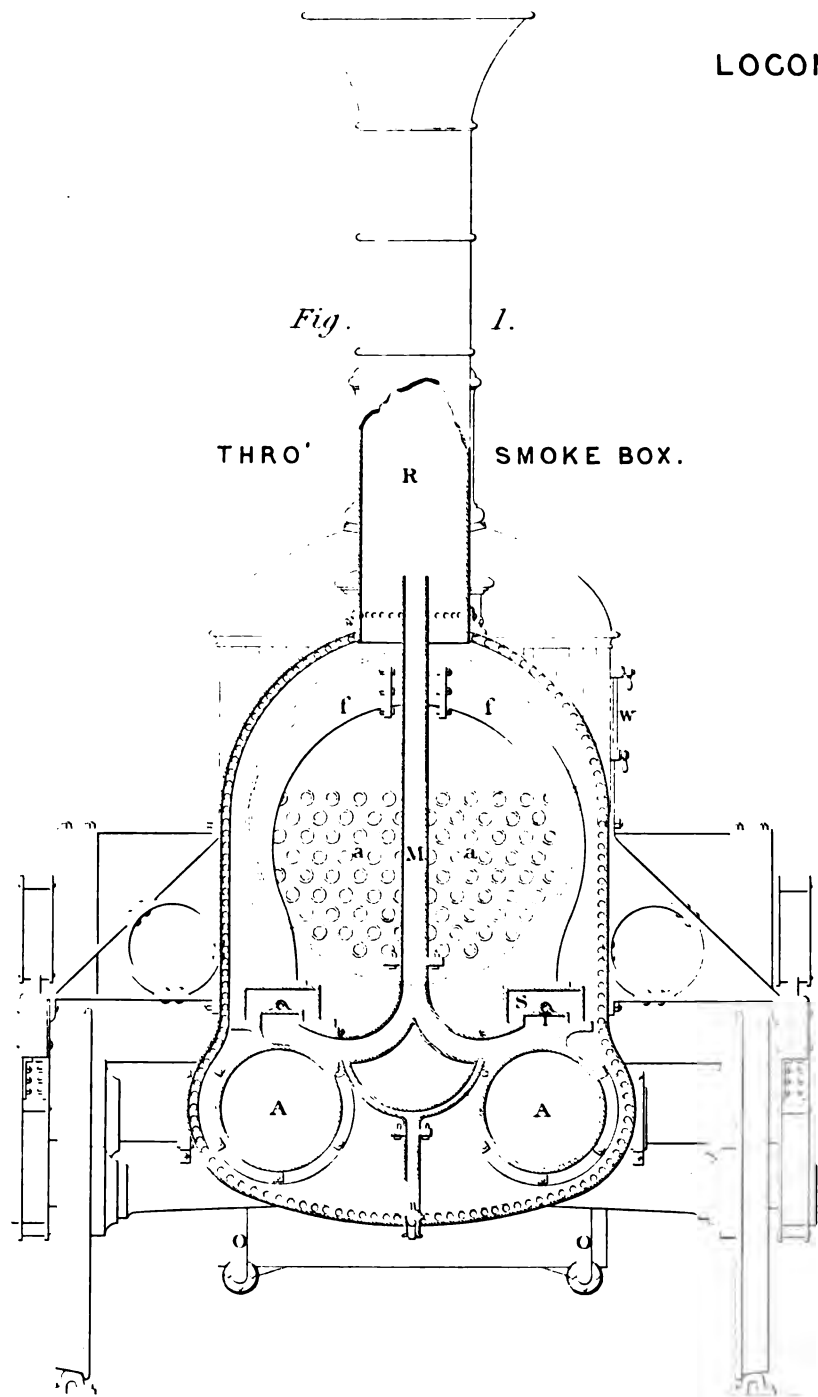






LOCOMOTIVE ENGINE  
WESTERN

*Transverse*



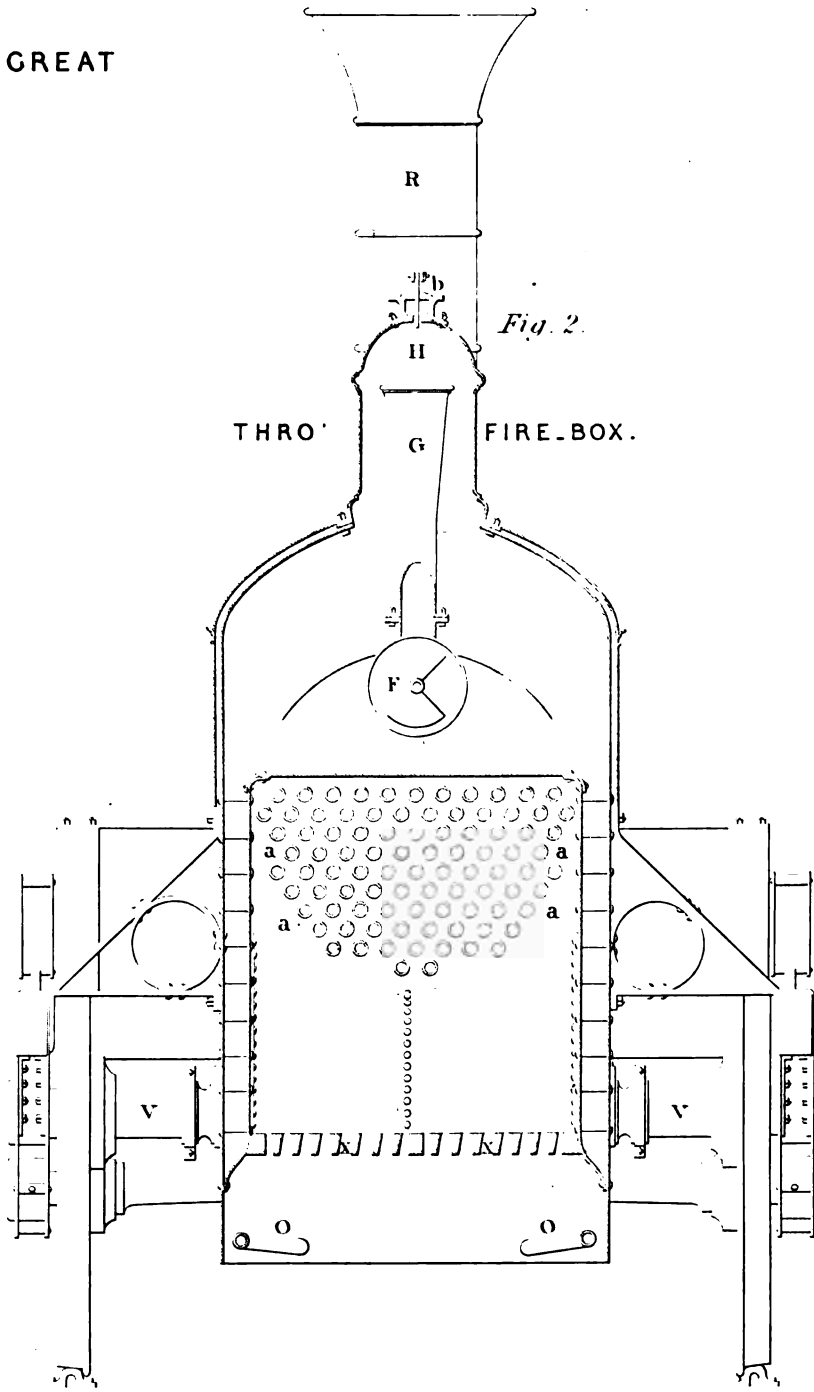
Inches 12 9 6 3 0 2 4

*E. Rumble del.*

*London, John*

ES ON THE GREAT  
RAILWAY.

Sections.



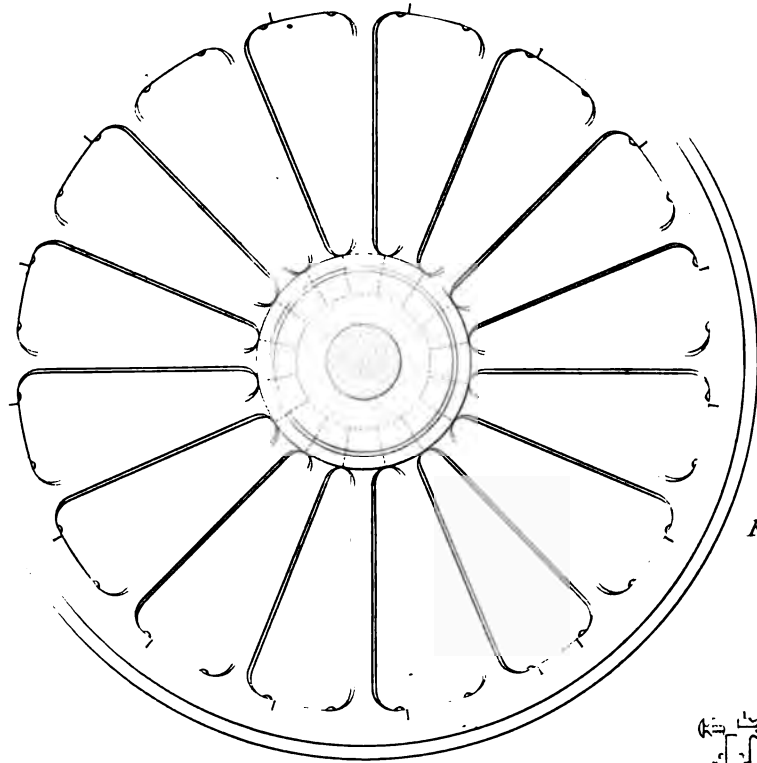
0 8 10 12 FEET







Elevation.



Section.

DETAILS OF

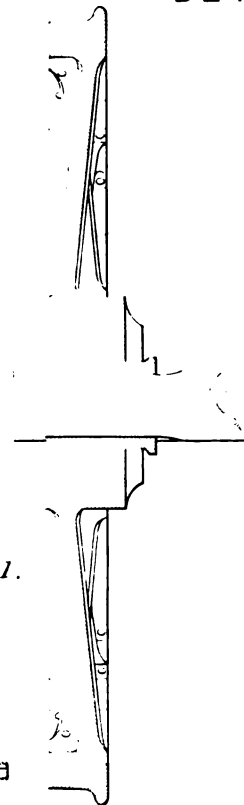


Fig. 1.

Fig. 6.

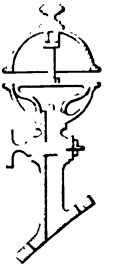


Fig. 3.

Fig. 4.

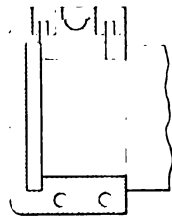


Fig. 5.

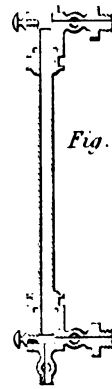
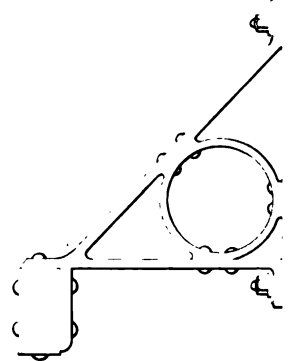


Fig. 10.



Scale of Feet. 1 2 3 4 5 6

Longitudinal Section.

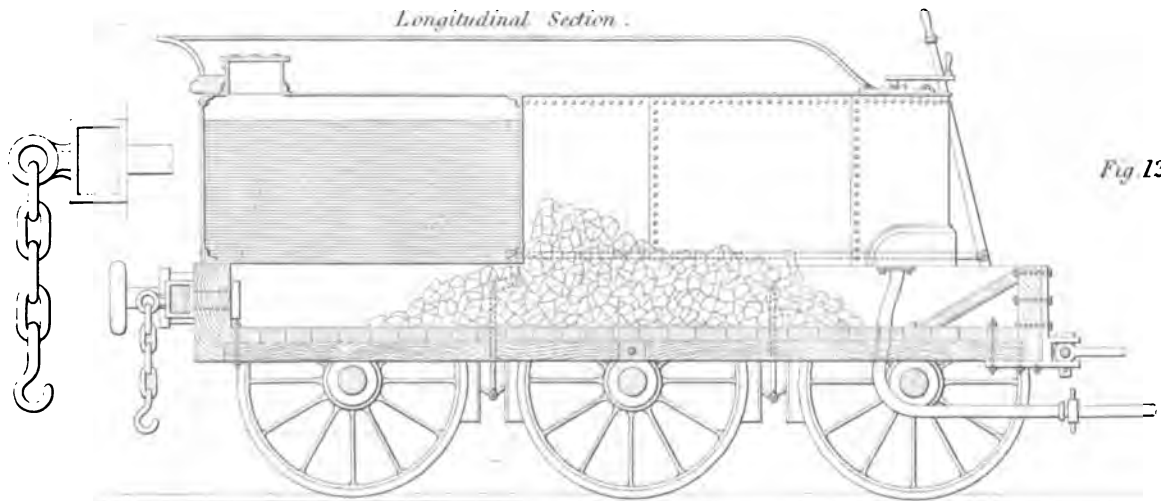


Fig. 12.

12 0 6 3 0 2 1  
Inches Scale

LOCOMOTIVE ENGINE.

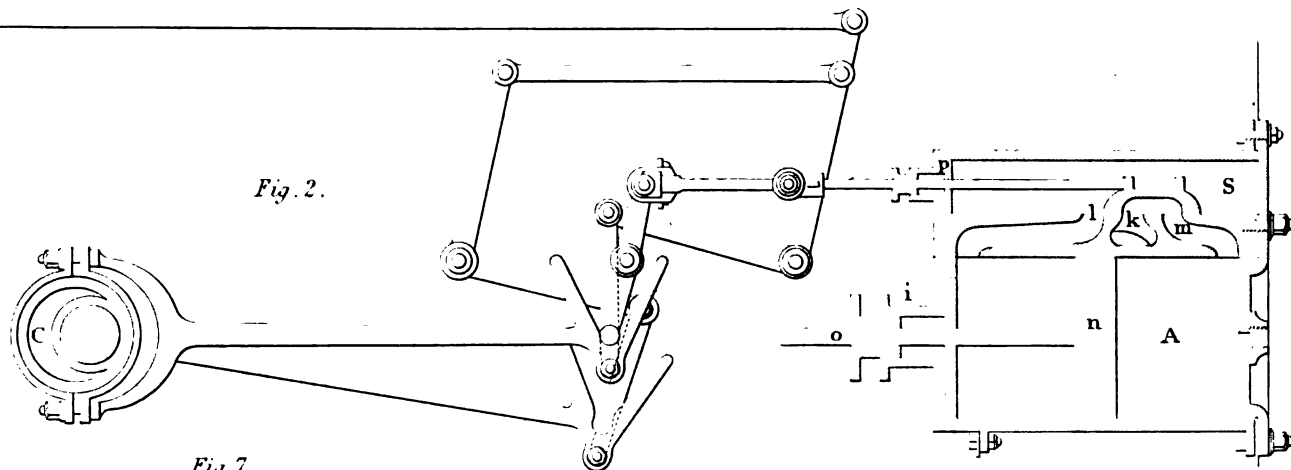


Fig. 2.

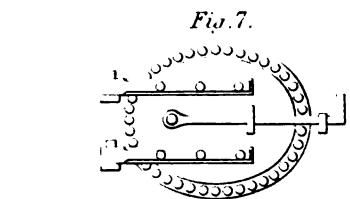


Fig. 7.

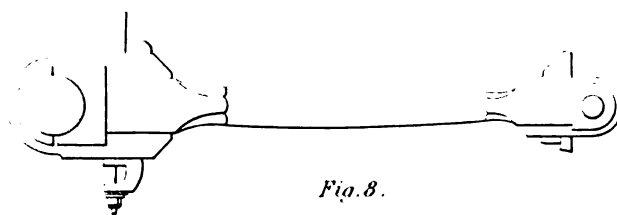


Fig. 8.

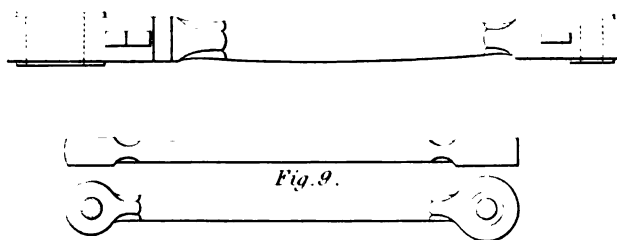


Fig. 9.

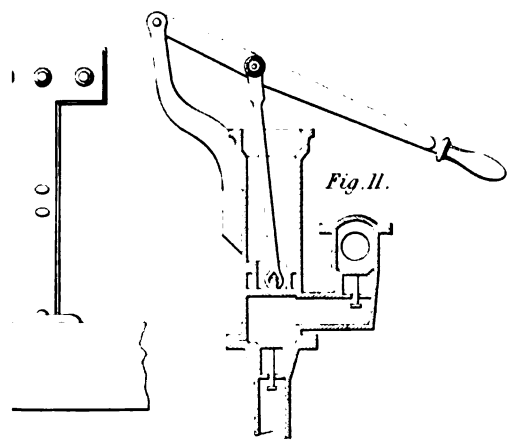
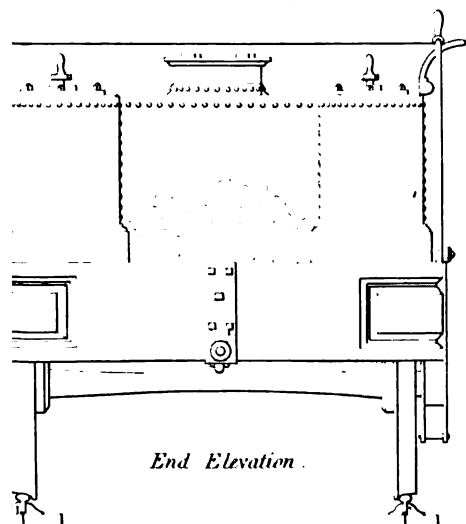


Fig. 11.



End Elevation.

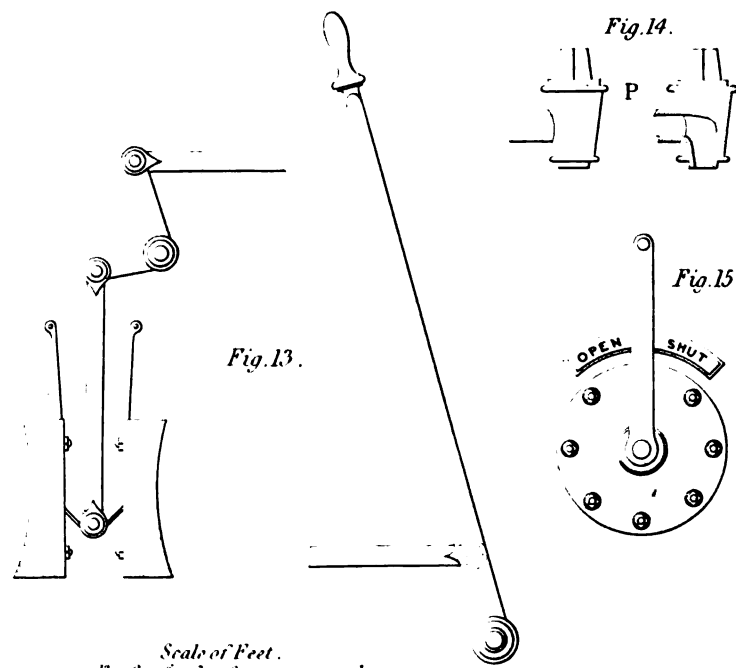


Fig. 13.

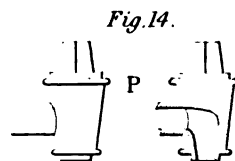


Fig. 14.

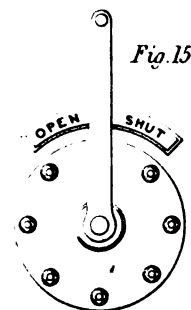


Fig. 15.

Scale of Feet.  
10 8 6 4 2 0  
Scale for Tender.  
4 2 0  
for large Details.

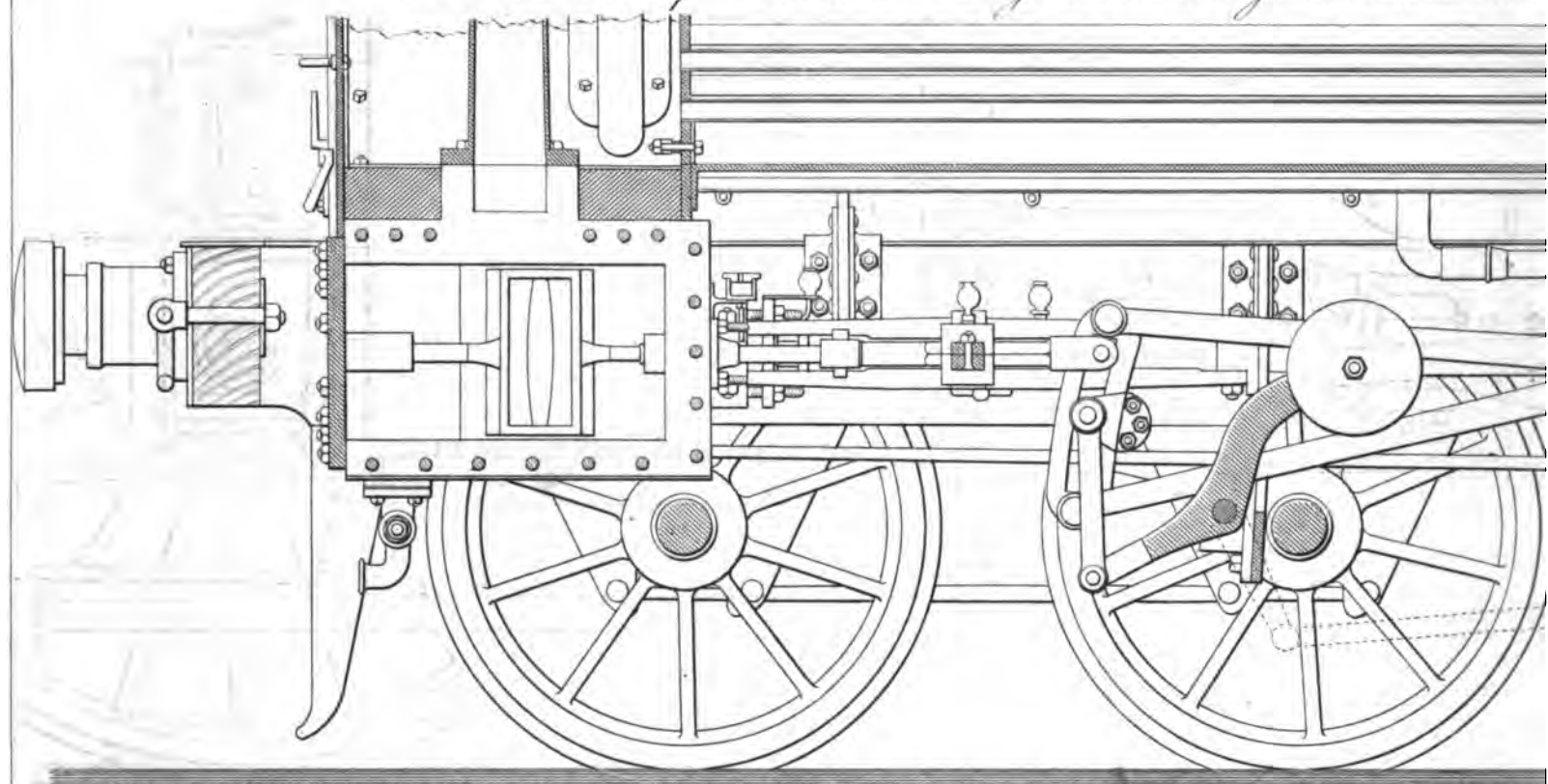
Scale of Feet.  
10 8 6 4 2 0  
Fig. 13.



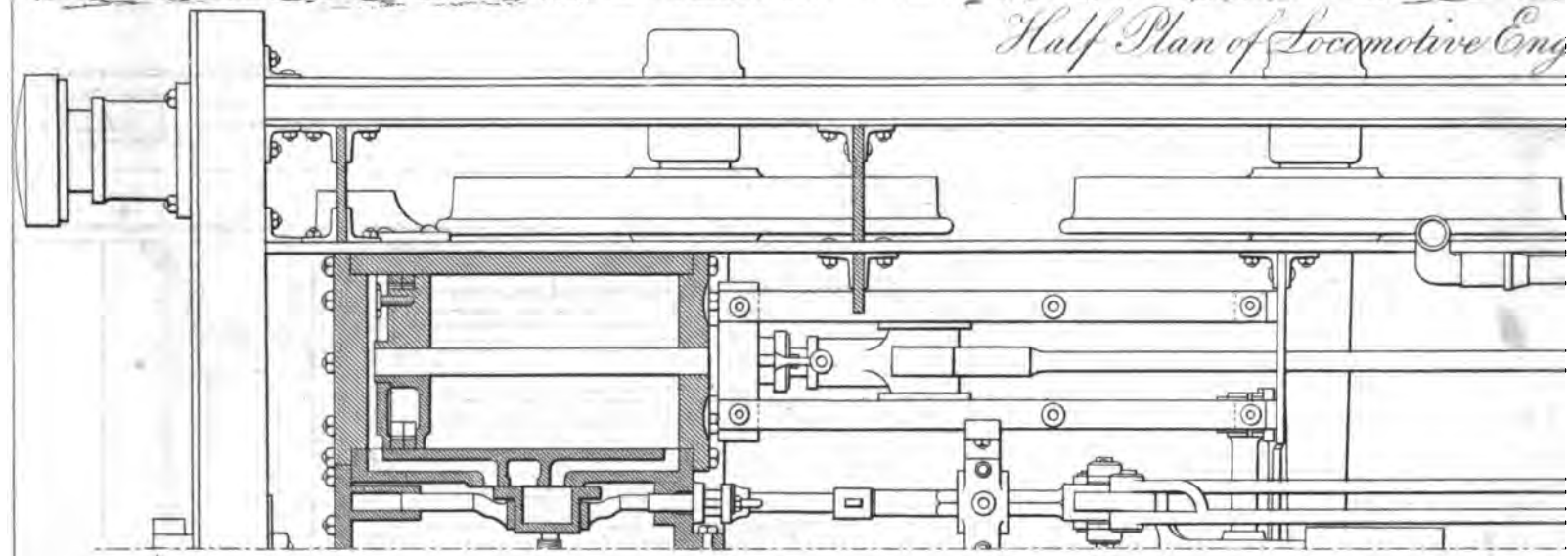


# THE LINK

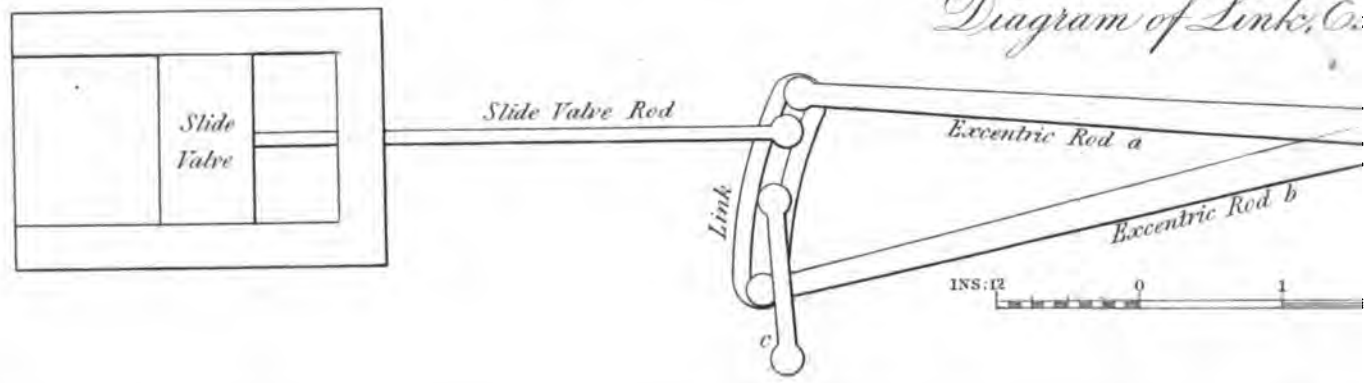
*Part Section of Locomotive Engine, shewing Link, Eccentric*



*Half Plan of Locomotive Eng*



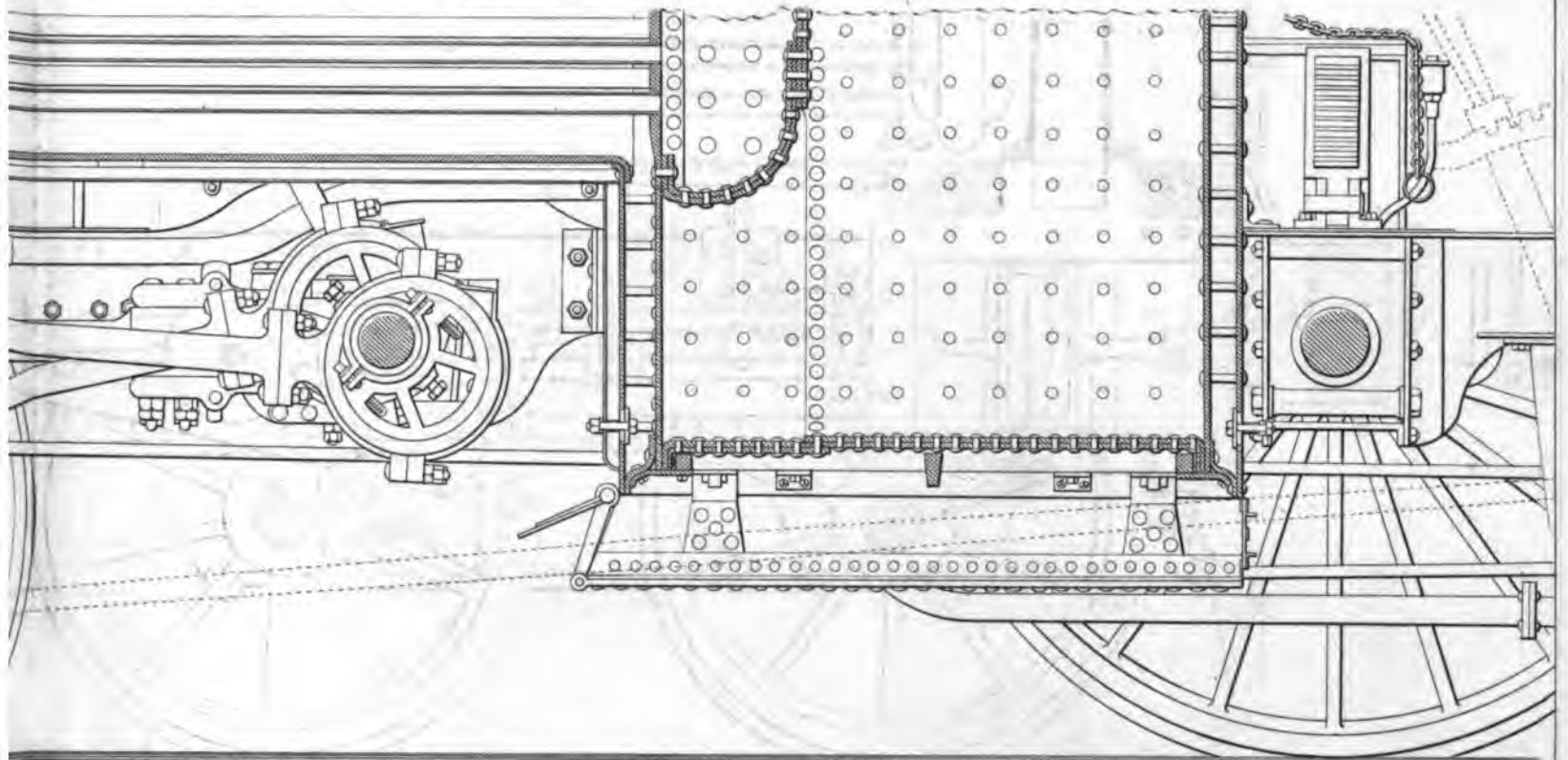
*Diagram of Link, E*



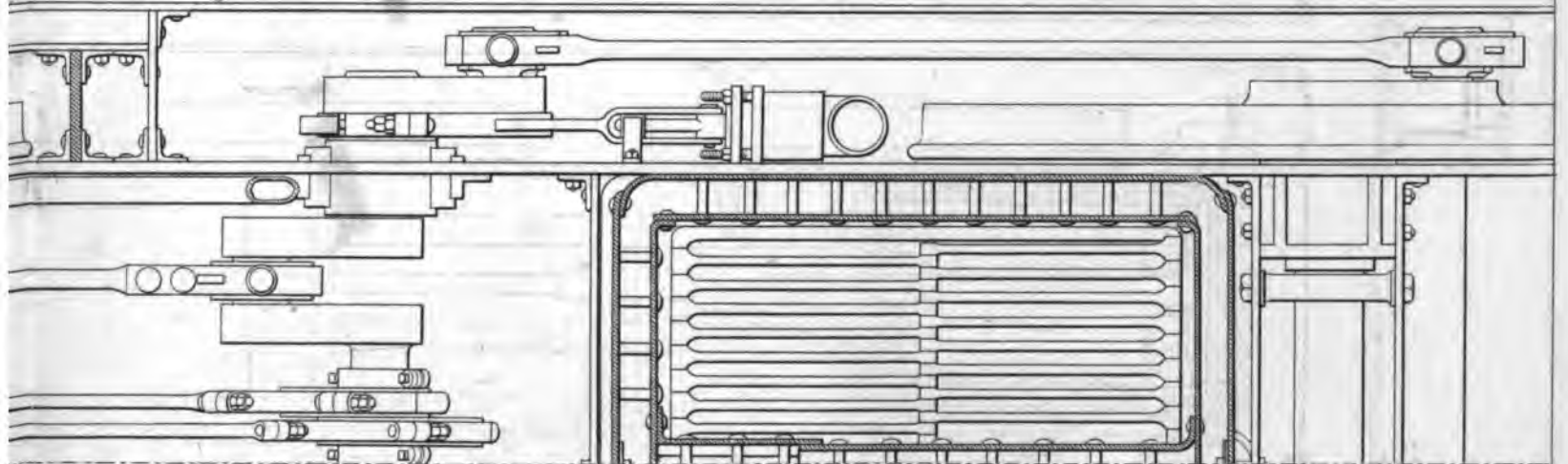


LINK MOTION.

*Excentrics, Slide Valves, &c, in connection with Boiler, Fire Box, &c.*



*Engine, shewing Link, &c, as above.*



*Excentrics, &c, detached.*

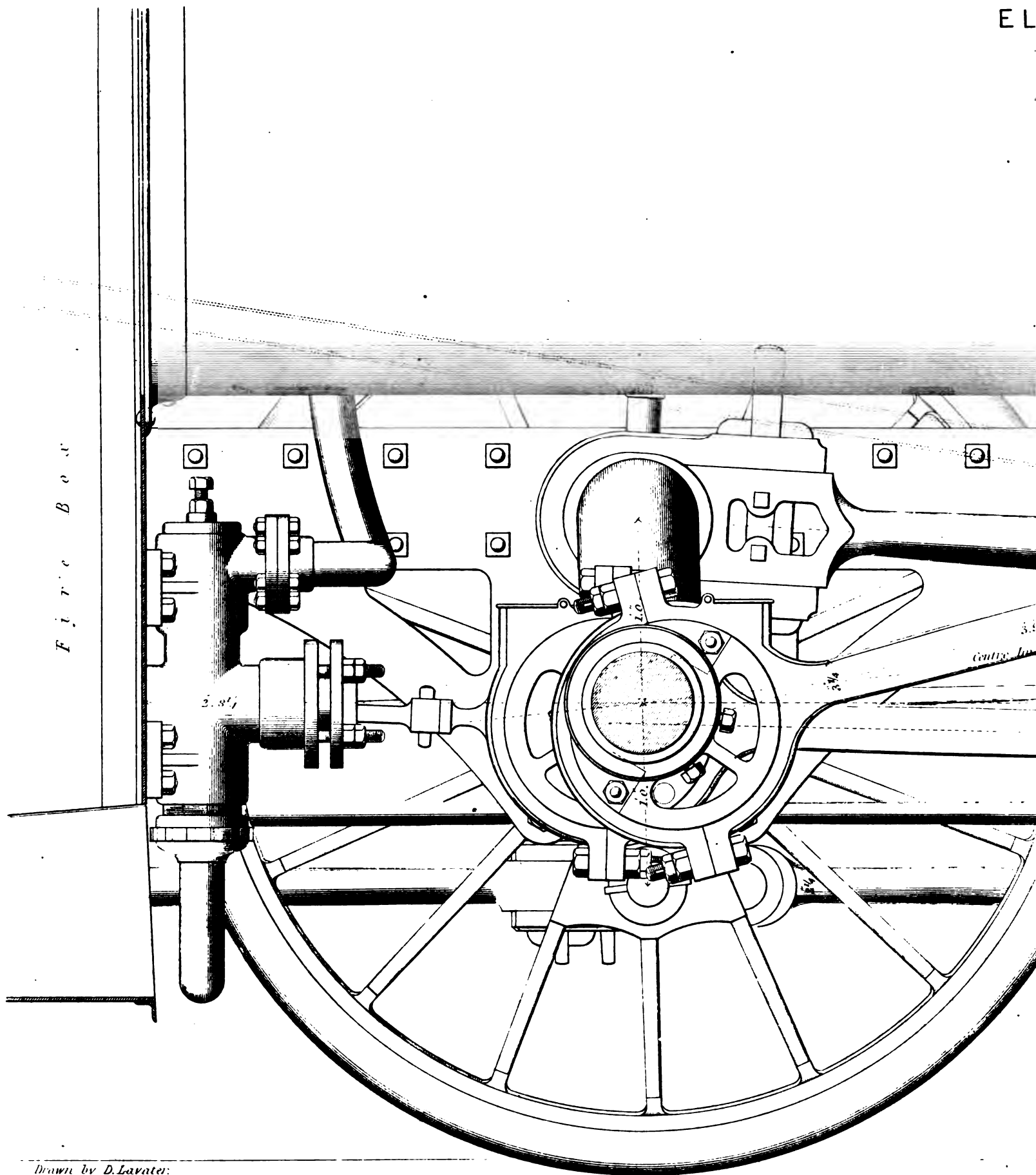








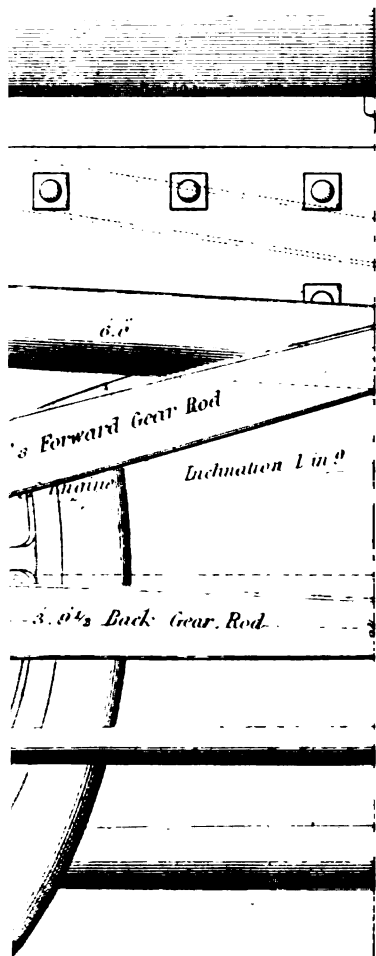
Fire Box



Drawn by D. Lavater.

Inches 2 1 0 1 2

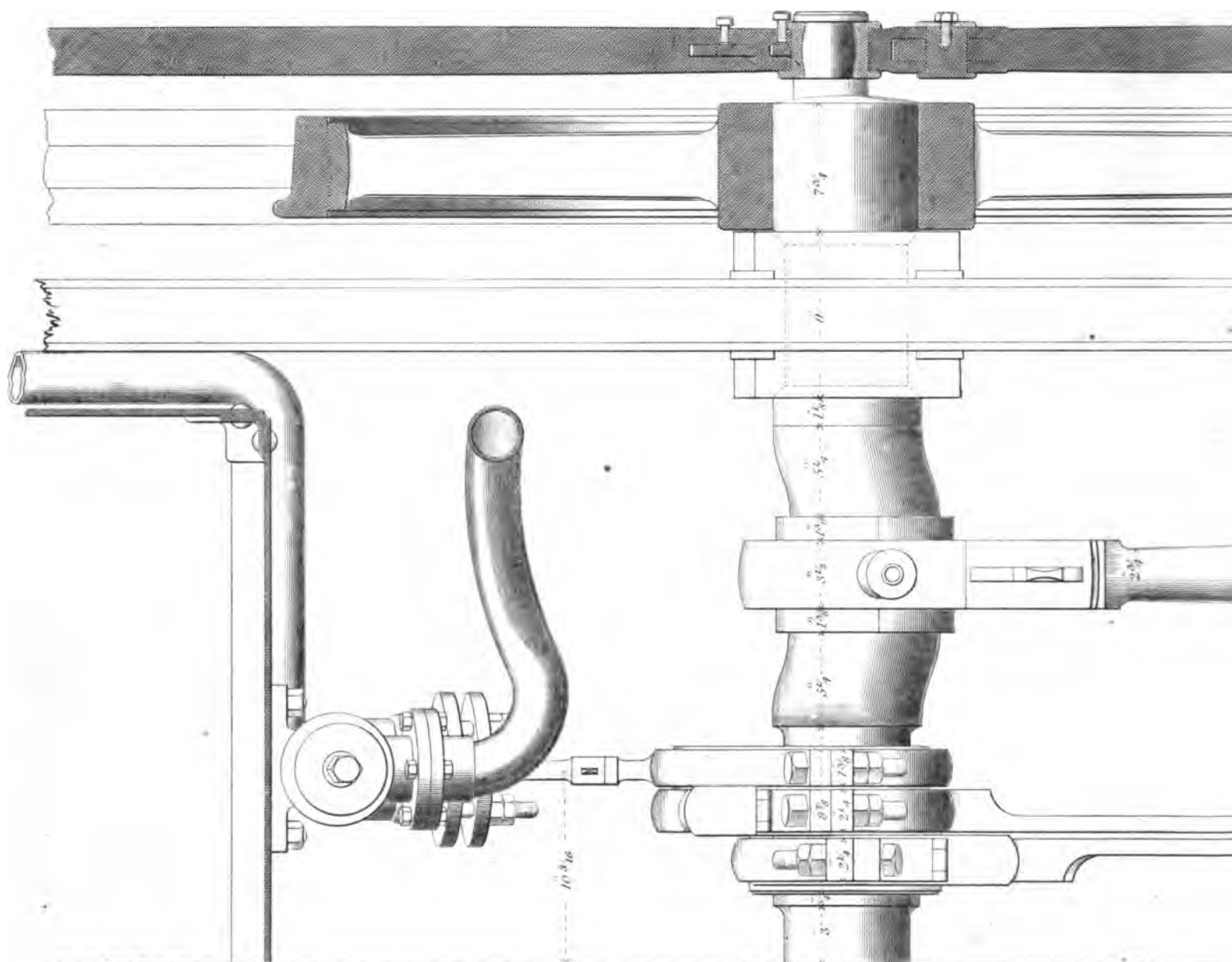
# ELEVATION OF







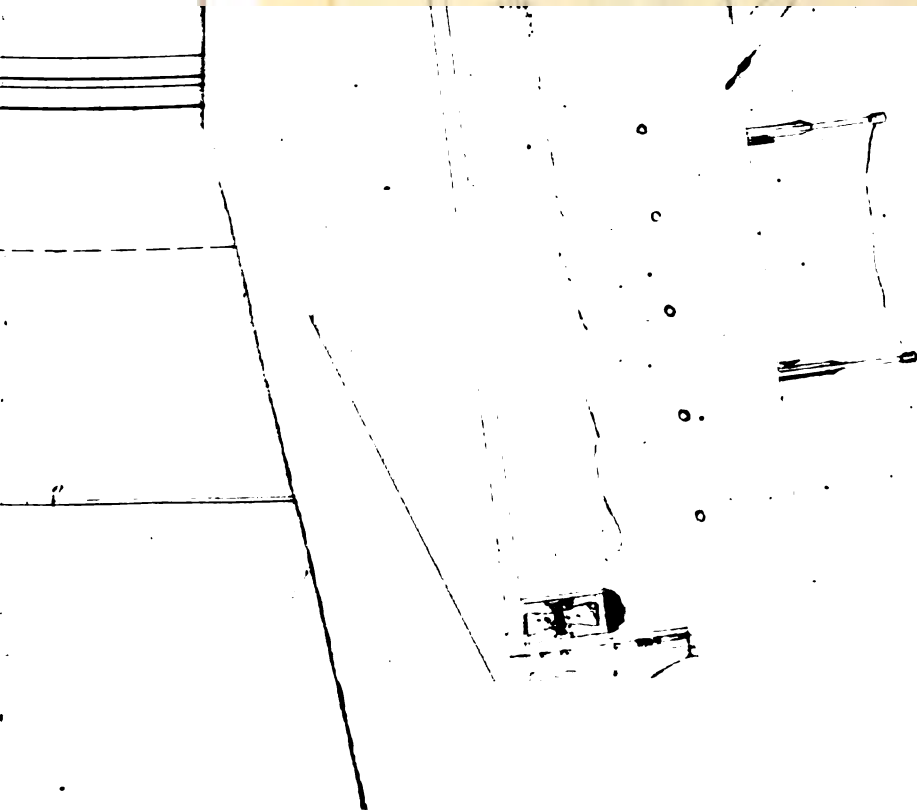
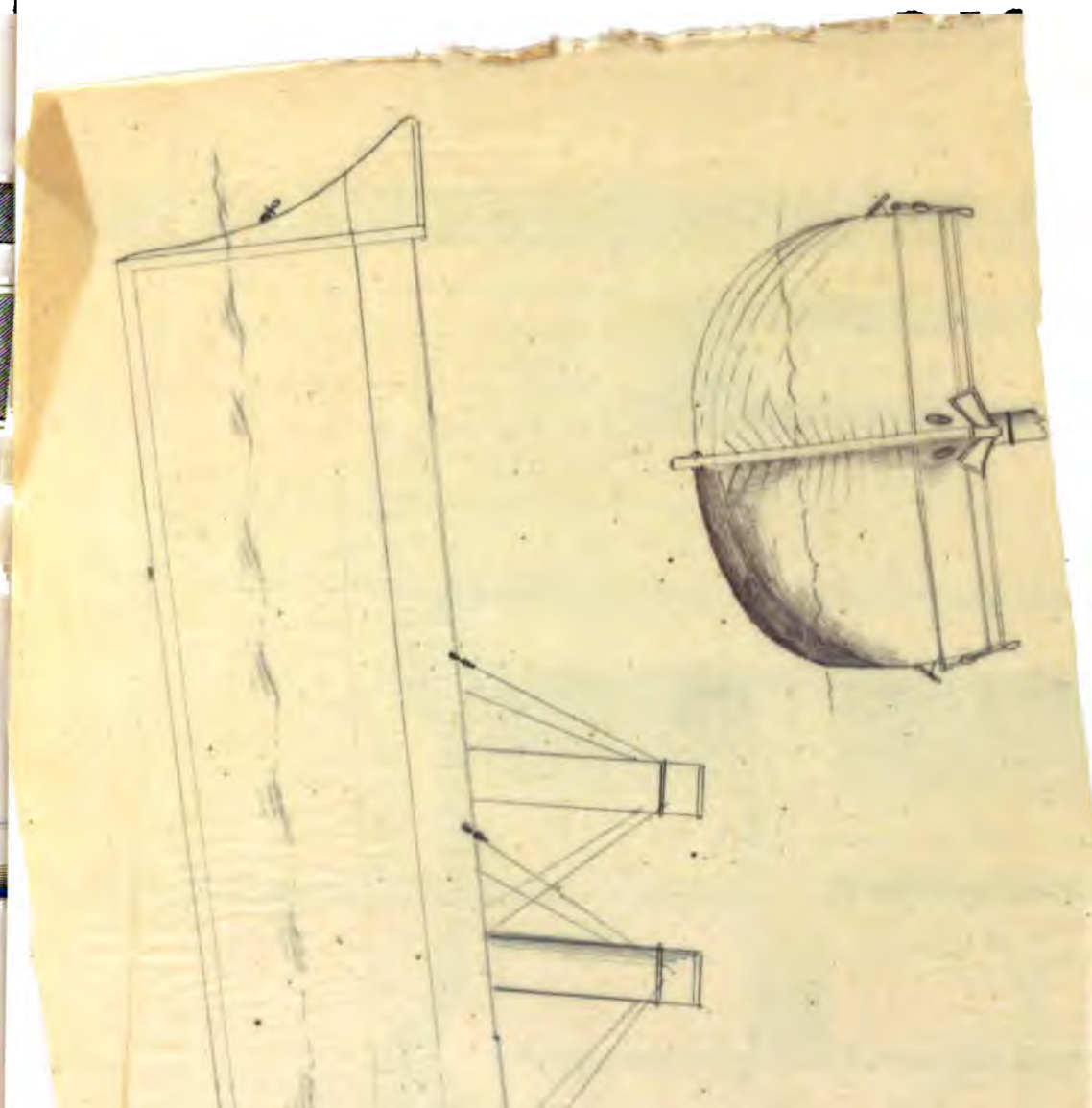
HALF |



*Drawn by D. Lavater:*

Inches 12 9 6 3

PLAN O

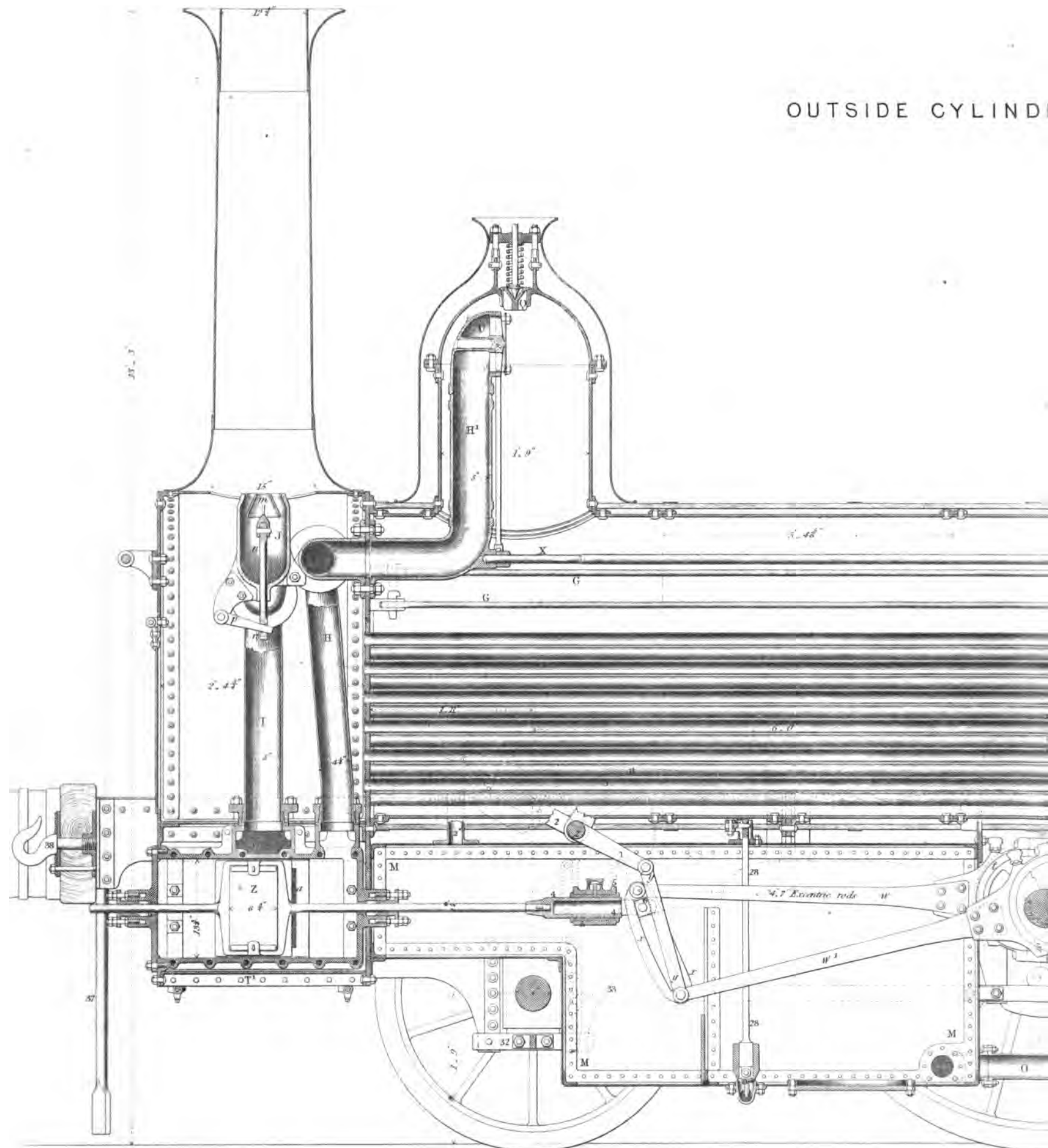




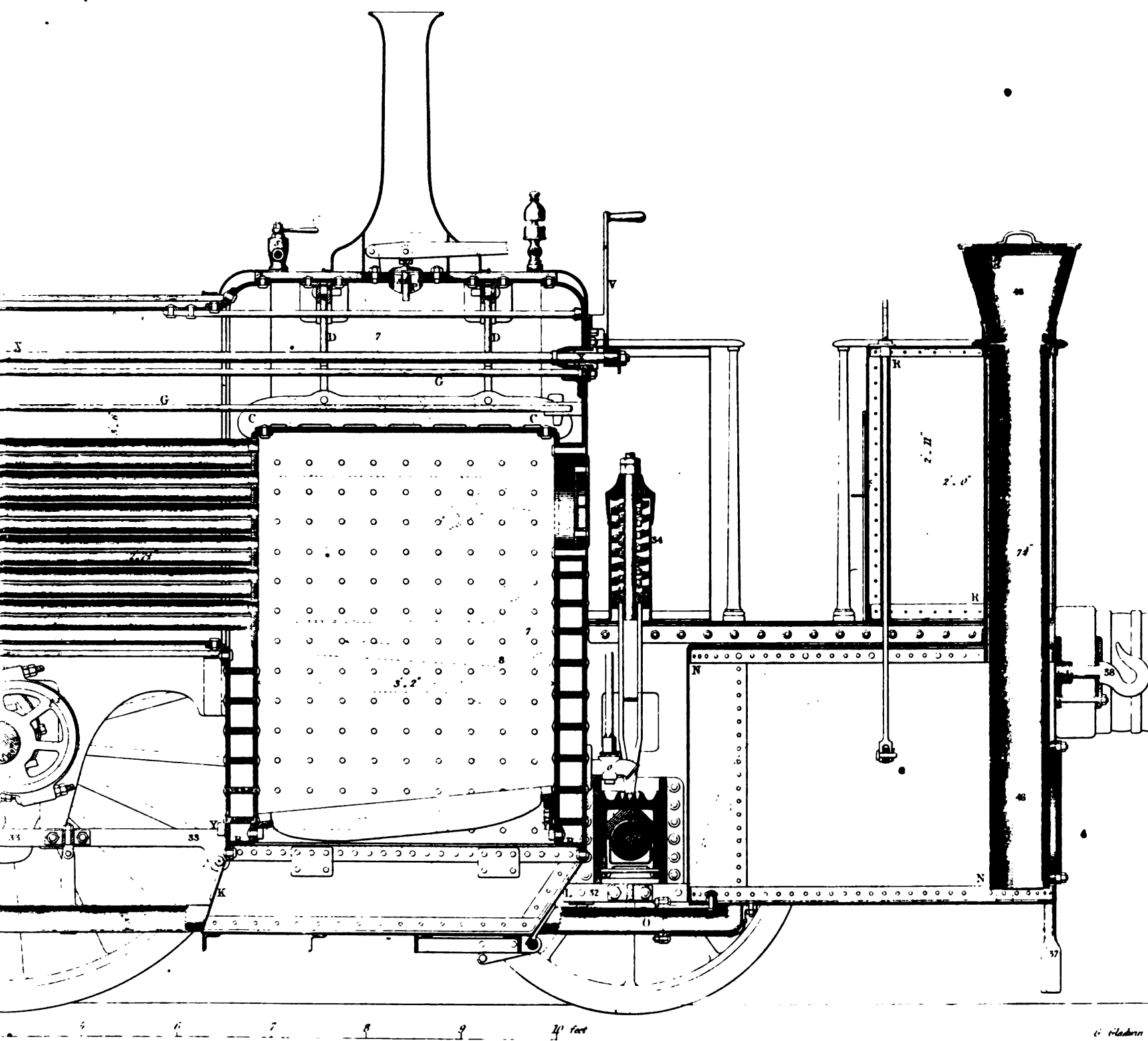




# OUTSIDE CYLIND

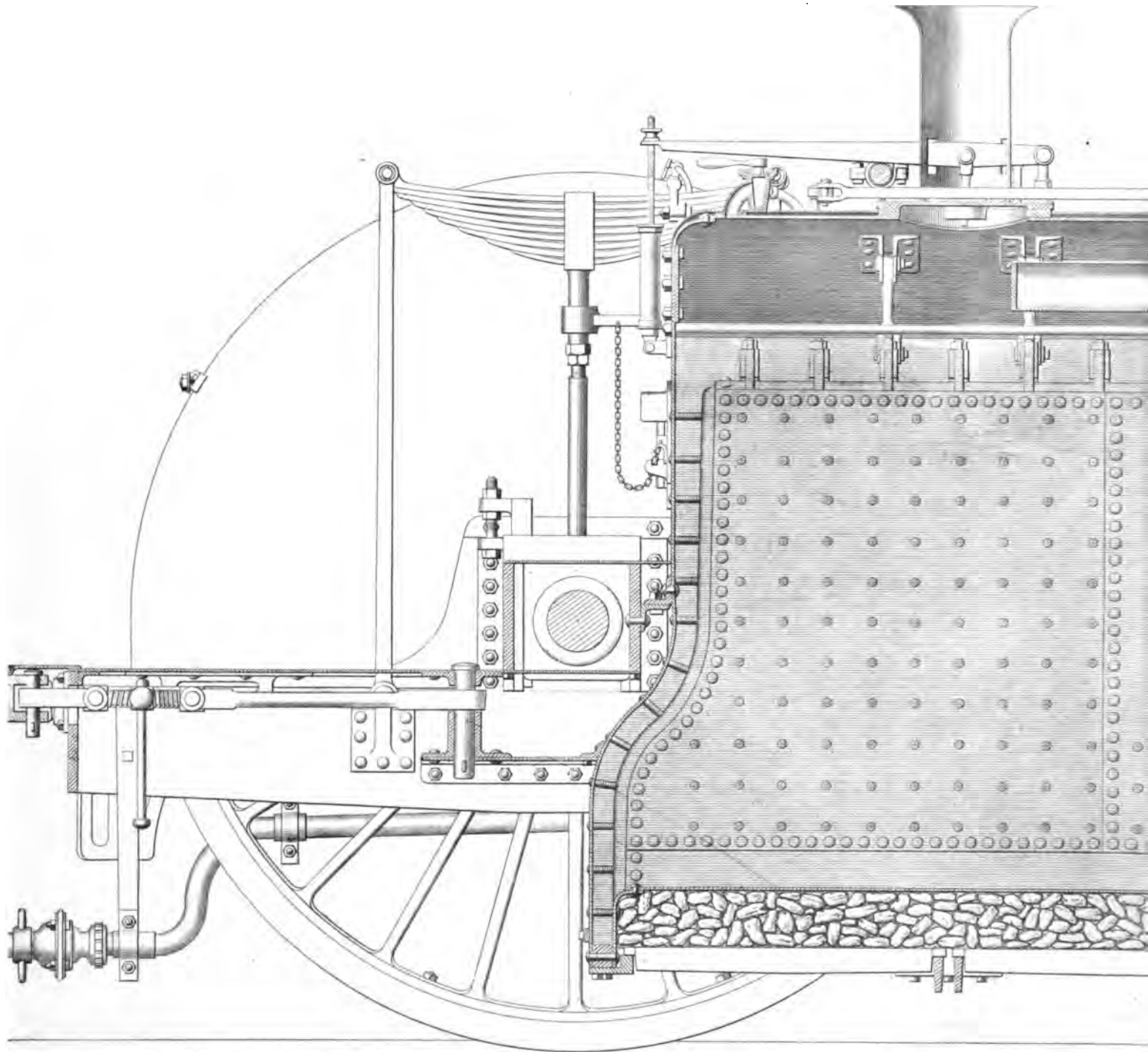


DER TANK ENGINE.





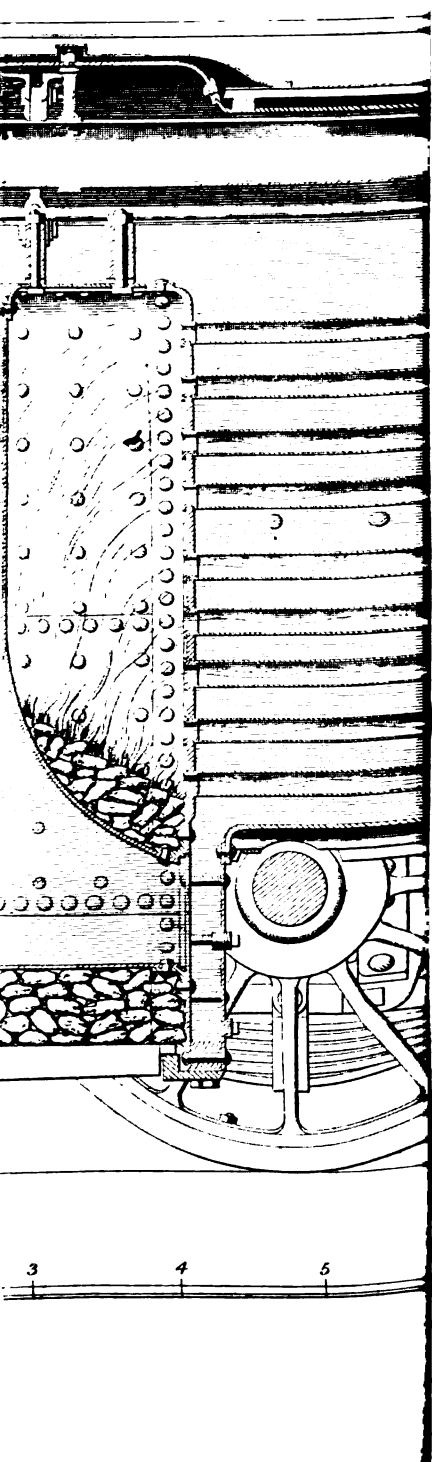




*David. C. Glen, del.*



GRAMPTON

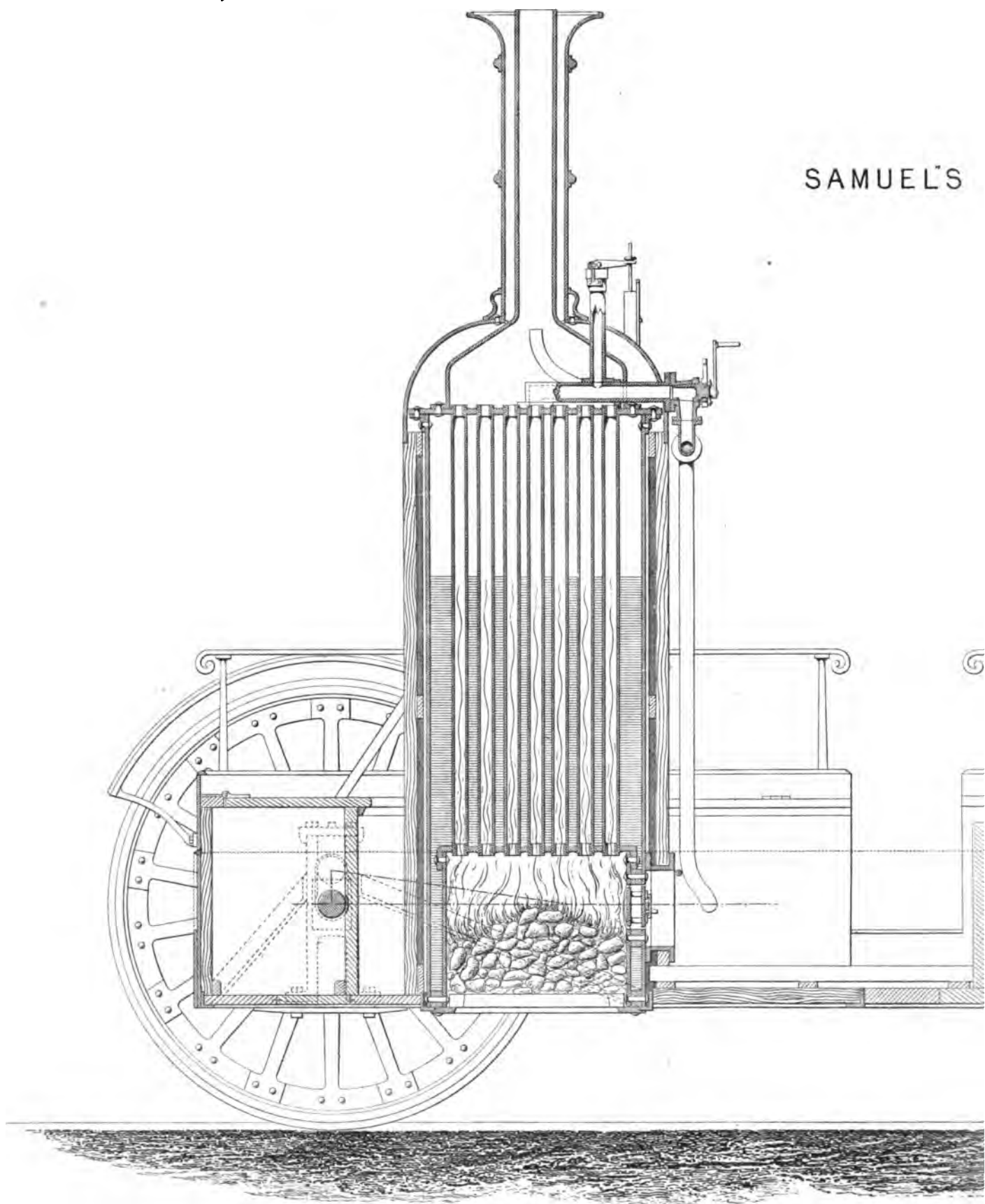








SAMUEL'S

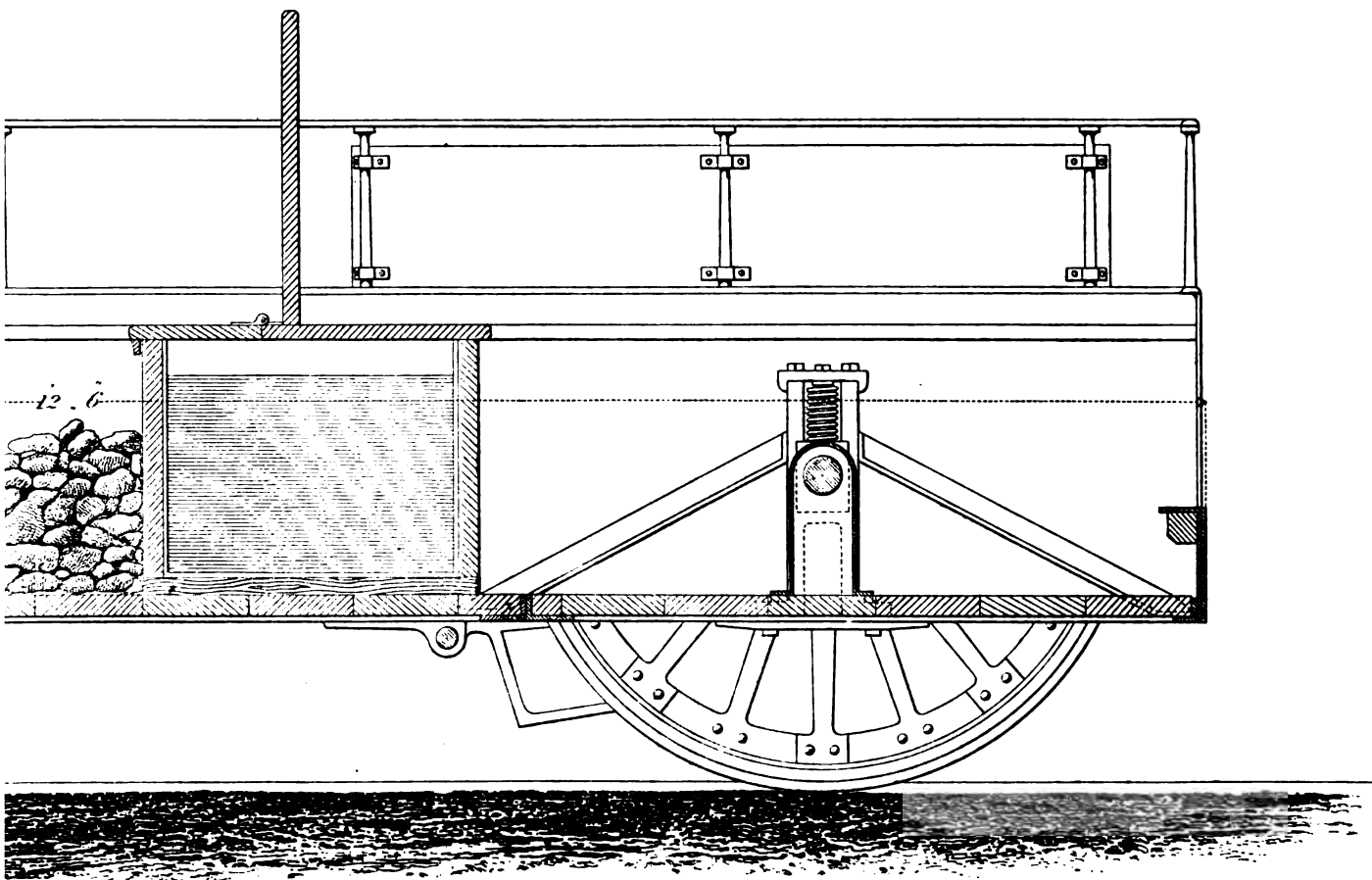


Geo. R. Isborn, Del.

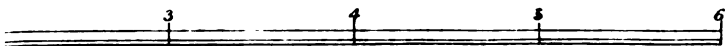


Lond

EXPRESS ENGINE.



SCALE OF FEET.



W.A. Beaver, Sc.

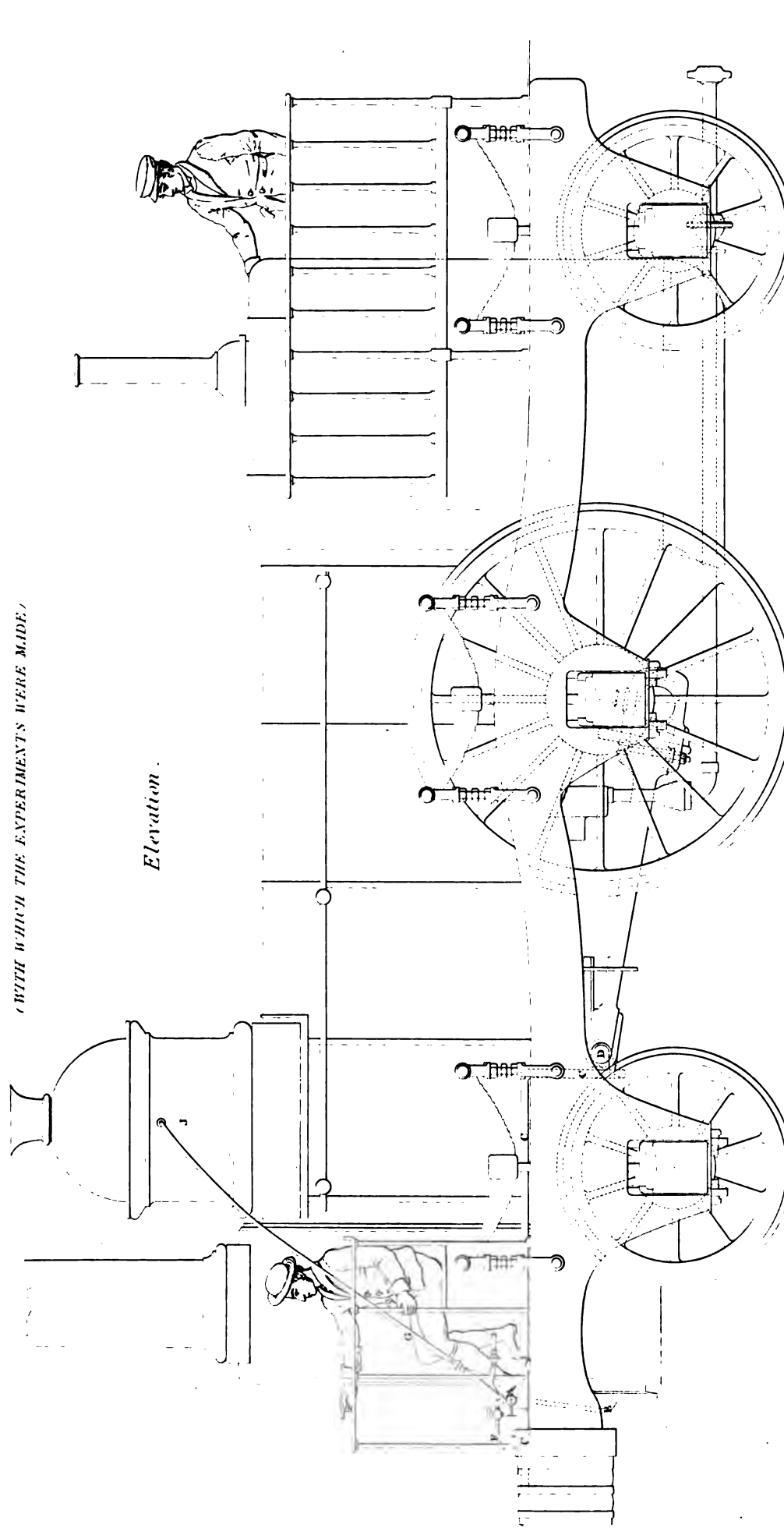
by John Weale, 1855.



THE LOCOMOTIVE ENGINE ON THE VERSAILLES RAILWAY.

Plate, XIV.

(WITH WHICH THE EXPERIMENTS WERE MADE.)



Elevation.

Half Sectional Plan.

